MITS - 00516

ENGLISH

FRANCAIS

DEUTSCH

ITALIANO

MITSUBISHI

COLOUR TELEVISION
TELEVISEUR COULEUR
FARBFERNSEHGERÄT
TELEVISORE A COLORI

CT-32BW1

OPERATING INSTRUCTIONS
MODE D'EMPLOI
BEDIENUNGSANWEISUNG
ISTRUZIONI PER L'USO

516

ENGLISH

MITSUBISHI

COLOUR TELEVISION

MODEL

CT-32BW1

OPERATING INSTRUCTIONS

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Please read these instructions before operating the set.
This model may have controls and features unfamiliar to you.

1 SOME DOs AND DON'Ts FOR YOUR SAFETY

This equipment has been designed and manufactured to meet international safety standards but, like any electrical equipment, care must be taken if you are to obtain the best results and safety is to be assured.

* * * * * * * *

DO read the operating instructions before you attempt to use the equipment.

DO ensure that all electrical connections (including the mains plug, extension leads and interconnections between pieces of equipment) are properly made and in accordance with the manufacturer's instructions. Switch off and withdraw the mains plug when making or changing connections.

DO consult your dealer if you are ever in doubt about the installation, operation or safety of your equipment.

DO be careful with glass panels or doors on equipment.

* * * * * * * *

DON'T continue to operate the equipment if you are in any doubt about it working normally, or if it is damaged in any way - switch off, withdraw the mains plug and consult your dealer.

DON'T remove any fixed cover as this may expose dangerous voltages.

DON'T leave equipment switched on when it is unattended unless it is specifically stated that it is designed for unattended operation or has a stand-by mode. Switch off using the switch on the equipment and make sure that your family know how to do this. Special arrangements may need to be made for infirm or handicapped people.

DON'T use equipment such as personal stereos or radios so that you are distracted from the requirements of traffic safety. It is illegal to watch television whilst driving.

DON'T listen to headphones at high volume, as such use can permanently damage your hearing.

DON'T obstruct the ventilation of the equipment, for example with curtains or soft furnishings. Overheating will cause damage and shorten the life of the equipment.

DON'T use makeshift stands and NEVER fix legs with wood screws - to ensure complete safety always fit the manufacturer's approved stand or legs with the fixings provided according to the instructions.

DON'T allow electrical equipment to be exposed to rain or moisture.

ABOVE ALL:

NEVER let anyone, especially children, push anything into holes, slots or any other opening in the case - this could result in a fatal electric shock!

NEVER guess or take chances with electrical equipment of any kind - it is better to be safe than sorry!

2 GENERAL INFORMATION

This TV complies with the requirements of the EC Directive 89/336/EEC, "Council Directive on the approximation of the laws of the Member States relating to electromagnetic compatibility" and 73/23/EEC, "Council Directive on the harmonization of the laws of the Member States relating to electrical equipment designed for use within certain voltage limits", as amended by Directive 93/68/EEC. The requirements for the susceptibility according to EN 55020 and the requirements for interference according EN 55013 are observed for the operation on residential areas, business and in small scale enterprises, inside as well as outside of the building. All places of operation are characterised by their connection to the low voltage power supply system.

AUTOMATIC SWITCH-OFF

This model will automatically switch off (go to stand-by) about 30 minutes after the end of programme transmissions.

FOR YOUR SAFETY

- Never remove the back cover - there are very high voltages inside which could kill!
- There are ventilation slots in the back and bottom of this TV - do not block these holes. Do not position the TV too close to curtains (less than 10 cm) or cover it with anything.
- Never poke anything into the ventilation slots.
- Avoid using the set in very warm or damp places - never use it in a bathroom, for example!

CLEANING

Switch off and unplug the TV from the mains before cleaning.

- The cabinet should be wiped with a clean, soft, dry cloth.
- The picture tube should be wiped with a soft cloth dampened with a solution of mild detergent such as dish washing liquid. Dry completely with a soft, dry cloth.
- Do not use solvents, abrasive cleaners or other strong cleaning agents.

MAINS SUPPLY

This TV should be connected to a mains supply of 230 Volts, 50 Hz AC only.
NOTE: If the mains cable of this TV requires replacement, use only an original MITSUBISHI part.

AERIAL

For the best reception you should use an aerial suitable for your area and reception conditions - your dealer can advise you about this. A set-top aerial may not give good results but can be useful in good reception areas. Connect your aerial to the socket marked ⅂Γ ⅄ on the back of the set.

LANGUAGE SELECTION FOR ON-SCREEN DISPLAY

This TV can use any one of 6 languages for its on-screen displays.
See section 19 "SET UP FUNCTIONS" for details.

Manufactured under license from Dolby Laboratories Licensing Corporation.

DOLBY, the double-D symbol ⧈ and "PRO LOGIC" are trademarks of Dolby Laboratories Licensing Corporation.

CAUTION

Do not put your fingers between the TV and its pedestal base while you are carrying it or it is turning - you may trap and hurt your fingers.

POSITIONING

If you are not using a stand, the TV should be placed on a hard, flat surface and there must be at least 4 cm of space on all sides to allow for ventilation.

The TV should be positioned so that strong light does not fall on the screen.

MAINS SUPPLY (When used in the UK)

The mains lead on this television is fitted with a 13 amp non-rewireable plug approved to BS 1363.

If you need to change the fuse in the plug you should only use a 5 amp fuse approved by ASTA or BSI to BS 1362.

A non-rewireable plug must only be used with its fuse cover in place.

If the supplied non-rewireable plug is not suitable for the sockets in your home, the plug must be cut off and an appropriate plug fitted.

The plug that has been cut off must be disposed of carefully as the bared end of the mains lead could cause an electric shock if the plug is inserted into a mains socket elsewhere.

The wires in the mains lead are coloured according to the following code:

Blue = neutral

Brown = live

As the colours of the wires in the mains lead of this product may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.

The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

Do not connect either wire to the terminal which is marked with the letter E or symbol ⏚ or coloured green or green and yellow.

(When used in Germany)

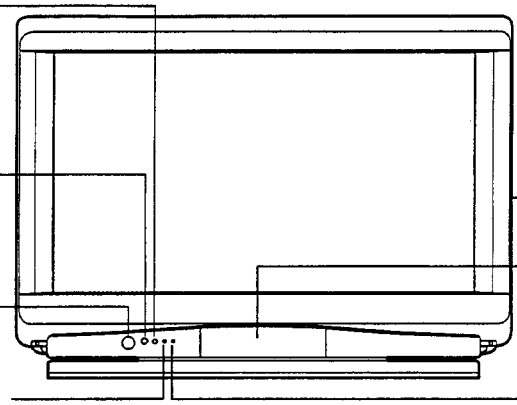
HINWEIS: Die von deisem Geräterzeugten Geräuschpegal sind Kleiner als 70 dB (A).

(When used in France)

The maximum hourly power consumption is : 178Wh according to the L. C. I. E. method.

3 DESCRIPTION OF THE TV RECEIVER

Your new colour TV has many features and functions. Please look at the illustration below for guidance.



ROOMLIGHT SENSOR
The TV gives the best picture depending on the brightness of a room. See section 13 "ROOMLIGHT SENSOR".

INFRA-RED REMOTE CONTROL SENSOR
Point your remote control unit towards this sensor.

MAINS POWER SWITCH
After plugging in to the mains AC outlet, press to switch on.

STAND-BY LAMP

AERIAL INPUT/AV CONNECTION PANEL
For connecting the aerial cable and for AV connections (Eg. video recorders).
See section 25 "CONNECTORS".

CONTROL PANEL DOOR
Push to open this door for access to the main control buttons.
See section 4 and 5.

POWER-ON LAMP

NOTE: Do not place anything in front of the remote control sensor or the roomlight sensor as this may stop them working properly.

ACCESSORIES

When you unpack the TV you should find:

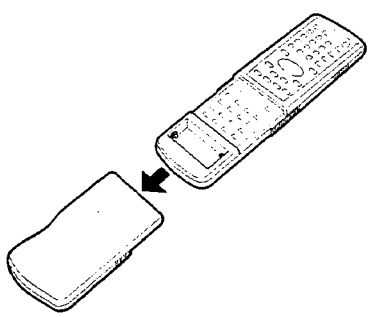
1. Remote Control Unit
2. Two AAA-size Batteries
3. Operating Instructions (this booklet)
4. Cable retaining clip
5. Two surround (rear) speakers and surround (rear) speaker leads
6. Two external speakers and external speaker leads (for Germany and France)
7. Guarantee Card (for the UK and France)
8. Envelope (for the UK)

THE REMOTE CONTROL UNIT

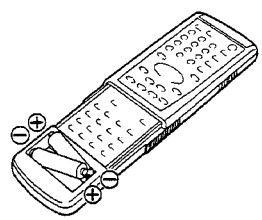
Your new TV is supplied with a combined TV and VCR remote control unit. See section 6 and 7 for how to use it.

FITTING THE BATTERIES

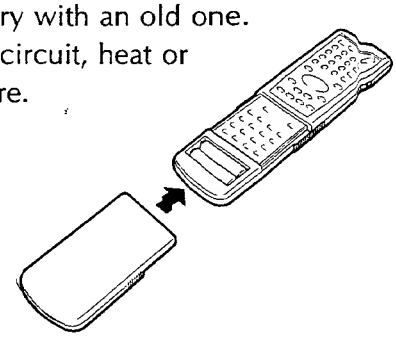
NOTE:
1. Do not use a new battery with an old one.
2. Do not cut open, short circuit, heat or throw batteries into a fire.



1. Remove the cover of the remote control by pulling out in the direction of the arrow.

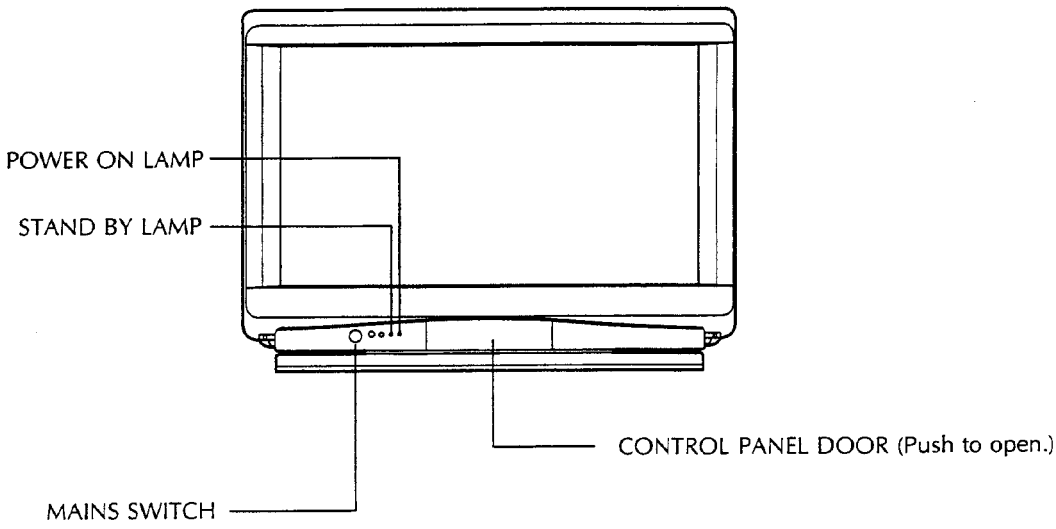


2. Insert the batteries, checking that the "+" and "-" marks on the batteries are the right way round.

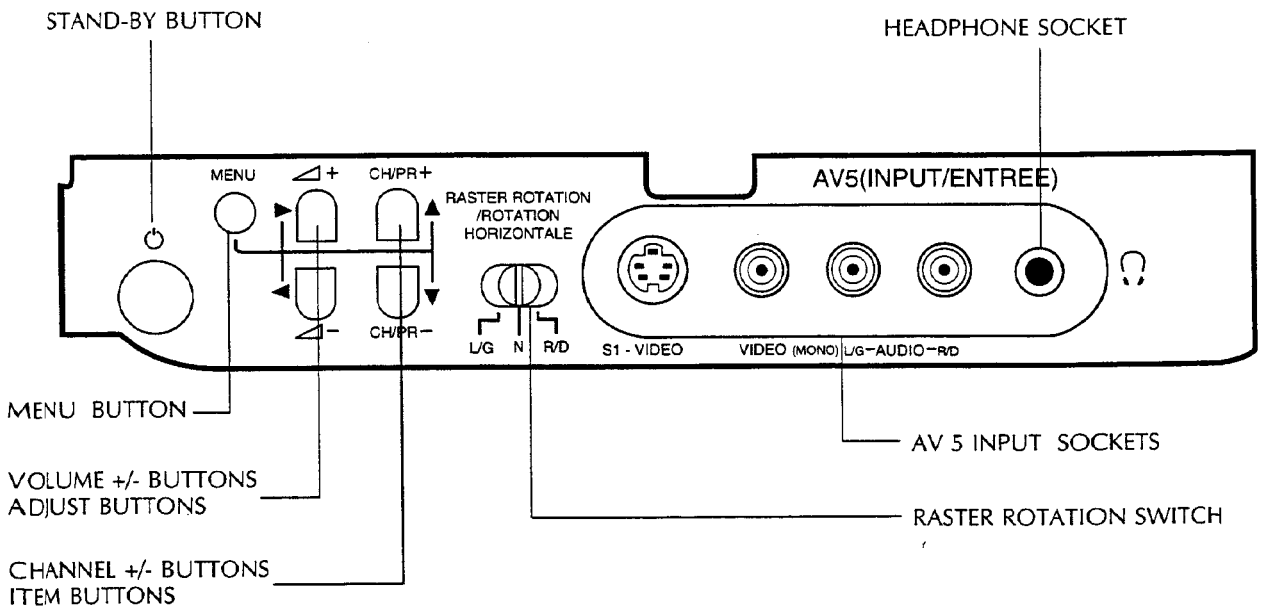


3. Replace the cover sliding the both sides of the cover in the slots of the remote control.

4 DIAGRAM OF THE TV CONTROLS



CONTROL PANEL



NOTE: After pressing the MENU button, the CHANNEL and VOLUME buttons control the MENU functions (as ITEM and ADJUST buttons).

5 OPERATION OF THE TV CONTROLS

1. MAINS SWITCH ⏻

This controls the power supply to the TV, press it to turn the power on or off. When the power is on, either the STAND-BY lamp will show a red light to indicate that the TV is in stand-by or the POWER-ON lamp will show a green light to indicate that the TV is fully switched on.

2. STAND-BY BUTTON ⏻

Press this button to switch the receiver from POWER-ON to STAND-BY. Press again to switch back to POWER-ON. The POWER-ON lamp is green when the TV is fully switched on and the STAND-BY lamp is red in Stand-by mode.

NOTE: When the child lock is set the STAND-BY button does not work. See section 21 "CHILD LOCK" for details.

3. CHANNEL +/- BUTTONS CH/PR -/+

Press the "+" or "-" button to change to the next higher or lower channel position number. These buttons are also used in "MENU" mode as the ITEM buttons.

4. VOLUME +/- BUTTONS ◁ -/+

Press the "+" to turn up the volume and the "-" button to reduce the volume. These buttons are also used in "MENU" mode as the ADJUST buttons.

5. MENU BUTTON

Pressing this button displays an on-screen menu for the adjustment of various functions. These are selected and adjusted using the VOLUME +/- and CHANNEL +/- buttons. The functions are explained in sections 10 to 19.

6. HEADPHONE SOCKET

You can connect headphones to this set for private listening if desired. Push to open the control door for access to the 3.5 mm stereo mini-jack socket. When you select the reduced (PIP or POP) image, the sound is coming from the reduced image in normal TV sound. You can not adjust treble, bass, balance, and surround functions.

You can adjust the headphone volume independently of the loudspeakers. See section 17 "SOUND ADJUSTMENTS."

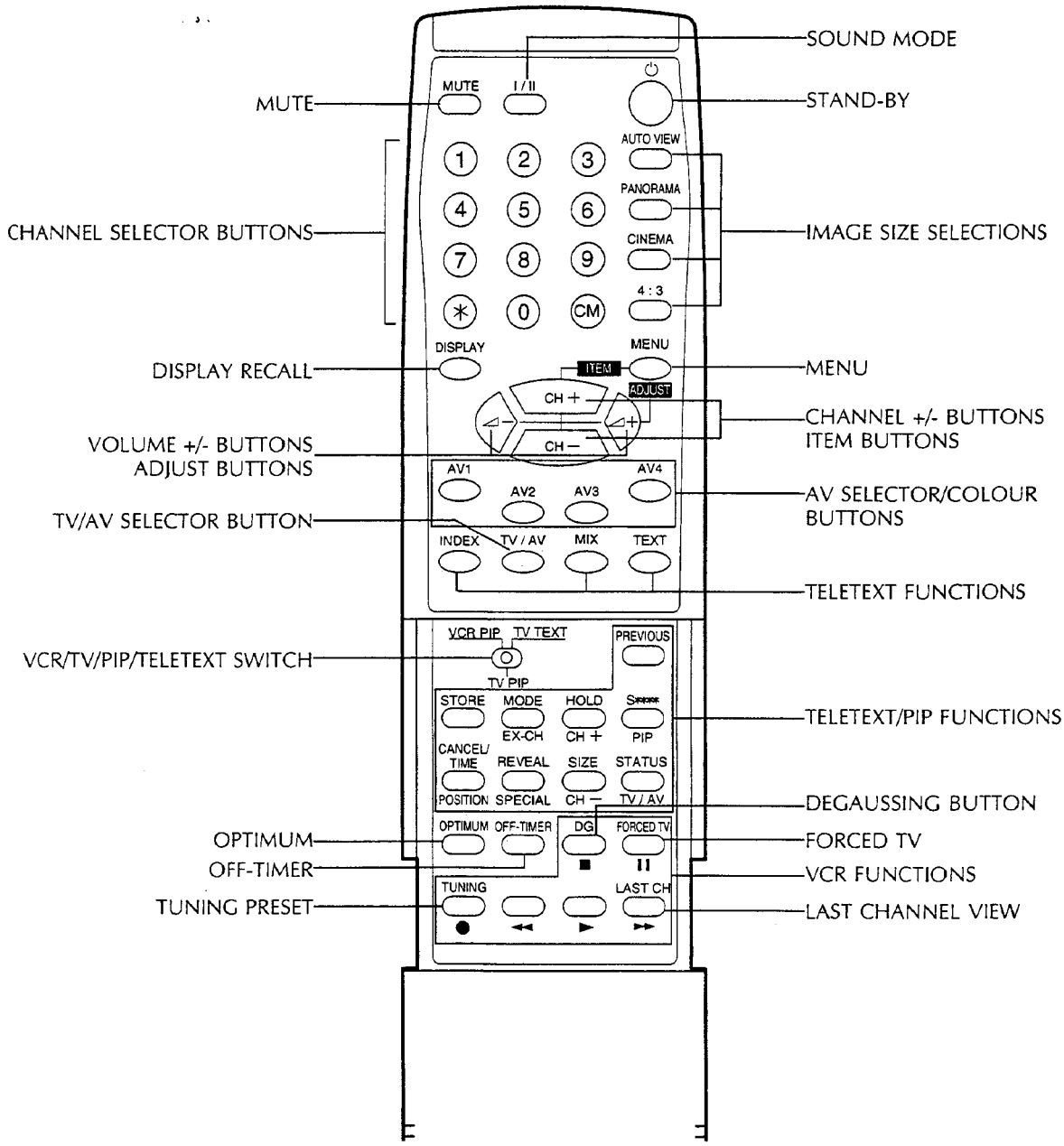
7. RASTER ROTATION SWITCH

This is used to compensate for the picture inclination caused by the earth's magnetism.

Usually it is advisable to set the raster rotation switch to "N" for neutral. If the TV picture seems to be inclined to the left, set the raster rotation switch to "R/D" for right. If the TV picture seems to be inclined to the right, set the raster rotation switch to "L/G" for left.

IT IS ALWAYS ADVISABLE TO TURN OFF THE TV SET AT THE MAINS SWITCH IF IT IS TO BE LEFT UNUSED FOR LONG PERIODS OF TIME (Eg. holidays, etc.). It is also advisable to unplug the mains plug and disconnect the aerial at these times.

6 DIAGRAM OF THE REMOTE CONTROL



NOTE: The following buttons can control either the TV or a MITSUBISHI VCR depending on the position of the VCR/TV/PIP/TELETEXT switch.

- STAND-BY
- CHANNEL SELECTOR BUTTONS (the "CM" button is for the TV only)
- CHANNEL +/- BUTTONS
- VCR FUNCTION BUTTONS

For more details of the VCR functions, please refer to your VCR operating instructions.

NOTE: The TELETEXT/PIP FUNCTION BUTTONS can be used for either Teletext or PIP operation depending on the position of the VCR/TV/PIP/TELETEXT switch.

7 OPERATION OF THE REMOTE CONTROL

NOTE: The MAINS SWITCH of the receiver must be in the "ON" position in order for the remote control to work.

1. VCR/TV/PIP/TELETEXT SWITCH VCR PIP/TV PIP/TV TEXT

Set to "VCR PIP" to operate a MITSUBISHI VCR and the PIP (Picture-in-Picture) function, "TV PIP" to operate the TV and the PIP function, and "TV TEXT" to operate the TV and the Teletext function.

2. STAND-BY ⏻

Press this button to switch the receiver from POWER-ON to STAND-BY. Press again to switch back to POWER-ON. The POWER-ON lamp is green when the TV is fully switched on and the STAND-BY lamp is red in Stand-by mode.

NOTE: When the child lock is set the STAND-BY button does not work. See section 21 "CHILD LOCK".

3. CHANNEL SELECTOR BUTTONS

Channel positions 0-9 can be selected directly by pressing one of the number buttons. For channel position numbers of 10 or higher, first press the " ✻ " button and then the two numbers. For example, to select channel position number 24, press ✻, 2 and 4 in that order.

If you know the real channel number, you can select the channel directly. First press the CM button and then press two buttons for the channel number. For example, to select channel 45 press CM, 4 and 5 in that order.

4. CHANNEL +/- CH+/-, ITEM

Press the "+" button to change to a higher channel position number, press the "-" button to change to a lower number. These buttons are also called ITEM buttons. Used for selecting function in "MENU" mode.

5. VOLUME +/- ◿ **+/-, ADJUST**

Press the "+" button to turn up the volume and the "-" button to reduce it. These buttons are also called ADJUST buttons. Used for adjusting the level or changing the setting in "MENU" mode.

6. MENU

Pressing this button displays an on-screen menu for the adjustment of various functions. These are selected and adjusted using the ITEM +/- and ADJUST +/- buttons. The functions are explained in sections 10 to 19.

7. LAST CHANNEL VIEW LAST CH

Press to switch between the current channel position and the last one viewed.

8. OFF-TIMER

Used to program the TV to turn off automatically at a later time. See section 23.

9. SOUND MODE SELECT BUTTON I / II

Used to switch between the main channel "I" and the sub channel "II" during a dual-sound (bilingual) broadcast. Also used for selecting "forced mono" during a stereo broadcast. See section 22.

10. DEGAUSSING BUTTON DG

Press to reduce unwanted colour impurities on the picture which may be caused by swivelling the set. See section 11.

11. TUNING PRESET BUTTON TUNING

Switches the TV to tuning mode - see section 8.

12. OPTIMUM

Press to return to the factory preset levels for all the picture and sound adjustments except volume. See section 14 for more information.

13. MUTE BUTTON

Press once to turn off the sound. The on-screen display "MUTE" will appear. Press again to restore the sound to its original level. Pressing the VOLUME "+" or "-" button will also restore the sound.

14. AV SELECTOR/COLOUR BUTTONS

Press to select the desired AV source to be viewed - AV1, AV2, AV3, AV4. These buttons are also used in MENU to select sub-menu or in TELETEXT to see the matching coloured page.

15. TV/AV SELECTOR BUTTON

Press repeatedly to select either TV operation or the AV source to be viewed - normal TV, AV1, (RGB)AV1, AV2, AV3, AV4, (RGB)AV4, AV5 or forced TV. The source you have chosen is indicated by an on-screen display. In AV mode, an on-screen display will remain on the screen until a signal from the chosen source is fed to the receiver.

See section 25 for more details of the AV system operation and details of the AV connectors.

16. FORCED TV BUTTON

Press to select forced TV mode (available in AV mode). The channel number is shown in blue on the screen.

In forced TV mode, you can watch a TV channel while the equipment such as a VCR or a satellite receiver connected to the AV1, AV2, AV3 or AV4 SCART socket is set to play.

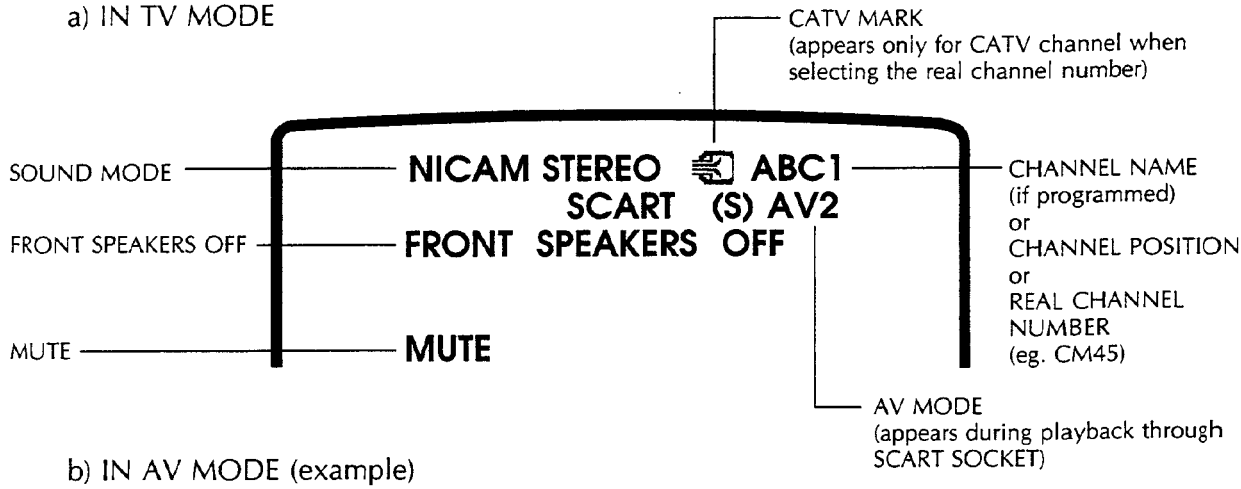
Press TV/AV SELECTOR button to set the TV back to normal TV mode. The channel number is shown in green.

NOTE: After you select forced TV mode, if TV picture has the noise on VCR playback, press the VIDEO/TV button of the VCR to reduce the noise.

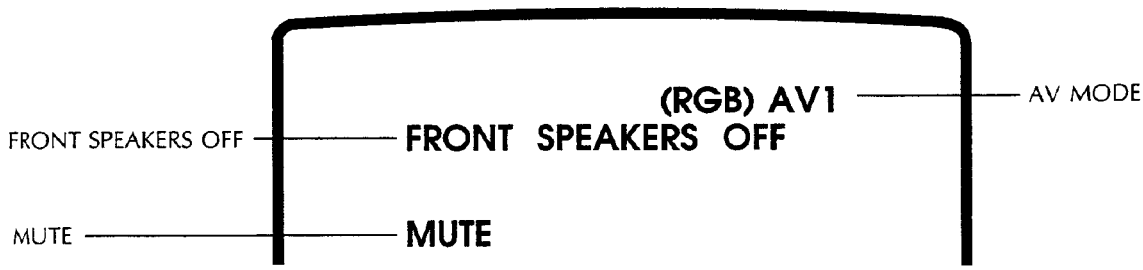
17. DISPLAY BUTTON

Press to display the channel information, sound mode, AV mode, front speakers off and mute.

a) IN TV MODE



b) IN AV MODE (example)



This button is also used to cancel the menu mode.

18. TELETEXT FUNCTION BUTTONS

With the VCR/TV/PIP/TELETEXT switch in the "TV TEXT" position these buttons can be used for Teletext function.

See section 24.

19. VCR FUNCTION BUTTONS

With the VCR/TV/PIP/TELETEXT switch in the "VCR PIP" position these buttons can be used to control most Mitsubishi VCRs. See your VCR operating instructions for more information.

20. PIP FUNCTION BUTTONS

With the VCR/TV/PIP/TELETEXT switch in the "VCR PIP" or "TV PIP" position these buttons can be used for PIP function.

See section 15.

21. IMAGE SIZE SELECTION BUTTONS

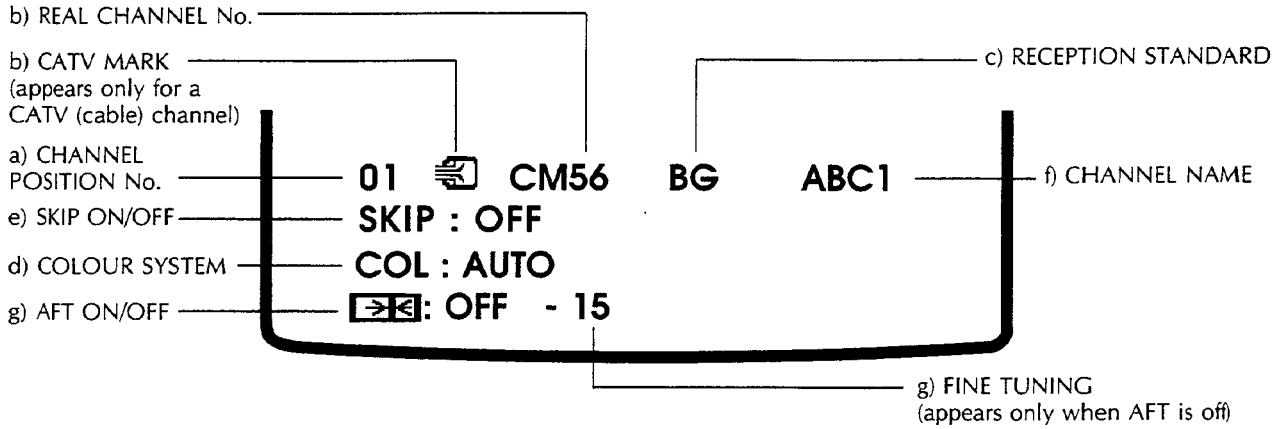
Press to select the image size suitable for a programme.

See section 20.

8 CHANNEL PRESETTING

Channels may be preset (tuned-in) by either automatic-search tuning or manual channel number selection. Up to 60 channel positions can be memorized.

1. Press the TUNING PRESET button. The on-screen display shows:



2. Select the item to be preset by pressing the ADJUST + or - button, the selected function will blink.

a) CHANNEL POSITION NO.

Select a channel position number using the CHANNEL +/- buttons or the CHANNEL SELECTOR buttons. For numbers 1 to 9 and 0, press the appropriate number button, for numbers 10 to 59, first press the "✱" button and then the two numbers.

b) REAL CHANNEL NO.

i) DIRECT CHANNEL SELECTION

If you know the real channel number of the station that you want - press the CM button and then press two numbers for the channel number. If the station required is on a CATV channel, press the CM button twice and then the channel number - see the channel tables in section 9.

ii) AUTO-SEARCH TUNING

If you do not know the real channel number, you can use automatic search tuning. Press the CHANNEL + or - button, the automatic search will start tuning upwards from the channel number shown on the display and stop at the first station. If this is the one you want, simply go on to step c). If not, press the CHANNEL + or - button again until the required station is found.

c) RECEPTION STANDARD

Select the reception standard using the ITEM +/- buttons. The display changes from I to L, DK and BG.

d) COLOUR SYSTEM

Set the colour system using the ITEM +/- buttons. There is a choice of AUTO, SECAM, 3.58NTSC, 4.43NTSC or PAL. In most cases you can use AUTO. Sometimes, however, it will be necessary to preset the system manually, for example in the case of a weak broadcast or a monochrome source.

Note that 60PAL is only used for playing back an NTSC video tape (in a suitable VCR) - see also section 19 "SET UP FUNCTIONS".

e) SKIP ON/OFF

The SKIP function is used to tell the TV to skip over a channel when later changing channels using the CHANNEL +/- buttons.

Set the skip "ON" or "OFF" using the ITEM +/- buttons.

f) CHANNEL NAME

Each channel position can be programmed with a name or code of up to 4 characters. The available characters are:

A, B, C, D . . . . . X, Y, Z, Ä, Ö, Ü, Ç, Ñ, 0, 1, 2, 3. . . . . 9, - (hyphen, used to make a blank space)

Select the character position using the ADJUST +/- buttons.

Select the character using the ITEM +/- buttons.

g) AFT ON/ OFF and FINE TUNING

In normal use, fine tuning is not necessary as this TV has an automatic fine tuning system (AFT). Generally it is recommended to leave the AFT switched on. However, in the case of extreme interference or a weak signal, it may be desirable to operate the receiver with the AFT switched off and the fine tuning adjusted manually.

Switch the AFT "ON" or "OFF" using the ITEM +/- buttons.

To fine tune manually (only possible with the AFT off)

i) Switch the AFT "OFF" as described above.

ii) Press the ADJUST button to select the fine tuning number.

iii) Press the ITEM "+" or "-" button to adjust the tuning up or down. The number changes showing the tuning position relative to the normal setting.

3. When you have finished presetting all the stations that you need, press the TUNING PRESET button to switch the tuning system off.

9 CHANNEL TABLES

These tables show the channels available in most European countries. The channel number that you must enter using the CM button is shown in the column marked "on-screen channel no."

BROADCAST CHANNELS

Channel	On-Screen Channel No.	Frequency (MHz)	Band
Western Europe (CCIR)			
E2	02	48.25	VHF (I)
E3	03	55.25	
E4	04	62.25	
E5	05	175.25	VHF (III)
~	~	~(7MHz steps)~	
E12	12	224.25	
E21	21	471.25	UHF (IV)
~	~	~(8MHz steps)~	
E69	69	855.25	
Italian Channels			
H1	11	217.25	VHF (I, III)
H2	12	224.25	
A	13	53.75	
B	14	62.25	
C	15	82.25	
D	16	175.25	
E	17	183.75	
F	18	192.25	
G	19	201.25	
H	20	210.25	
Irish Channels			
A	81	45.75	VHF (I, III)
B	82	53.75	
C	83	61.75	
D	84	175.25	
E	85	183.25	
F	86	191.25	
G	87	199.25	
H	88	207.25	
J	89	215.25	
French Channels			
2	91	55.75	VHF (I, III)
3	92	60.50	
4	93	63.75	
5	94	176.00	
6	95	184.00	
7	96	192.00	
8	97	200.00	
9	98	208.00	
10	99	216.00	
Eastern Europe (OIRT)			
R1	70	49.75	VHF (I, III)
R2	71	59.25	
R3	72	77.25	
R4	73	85.25	
R5	74	93.25	
R6	16	175.25	
R7	75	183.25	
R8	76	191.25	
R9	77	199.25	
R10	78	207.25	
R11	79	215.25	
R12	80	223.25	

CABLE TV CHANNELS

Channel	On-Screen Channel No.	Frequency (MHz)	Band
Western Europe			
S1'	42	69.25	VHF (I)
S2'	43	76.25	
S3'	44	83.25	
S4'	45	90.25	
S5'	46	97.25	
S1 (M1)	1	105.25	VHF (III)
~	~	~(7MHz steps)~	
S10 (M10)	10	168.25	
S11	11	231.25	
~	~	~(7MHz steps)~	
S20	20	294.25	
S21	21	303.25	Hyperband
~	~	~(8MHz steps)~	
S41	41	463.25	
H21	71 (=21+50)	303.25	
~	~	~(12MHz steps)~	
H41	91 (=41+50)	543.25	
French Channels			
B	50	116.75	VHF (III)
C	51	128.75	
D	52	140.75	
E	53	152.75	
F	54	164.75	
G	55	176.75	
H	56	188.75	
I	57	200.75	
J	58	212.75	
K	59	224.75	
L	60	236.75	
M	61	248.75	
N	62	260.75	
O	63	272.75	
P	64	284.75	
Q	65	296.75	

10 MENU FUNCTIONS

This TV provides an on-screen menu system for the operation of many of its functions.

NOTE: In the following sections, we use "ENGLISH" language display for the instructions of menu functions.

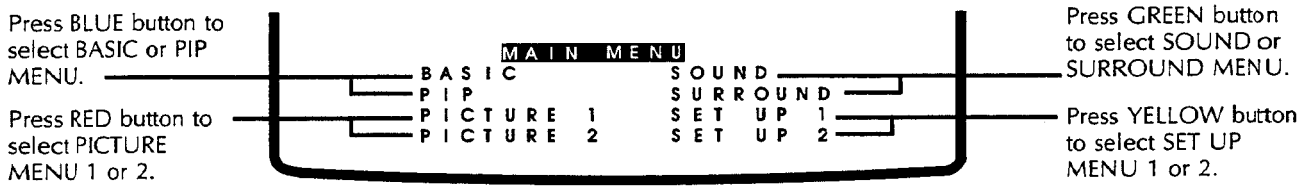
MAIN MENU

Press the MENU button to display the MAIN MENU.

In the MAIN MENU, you can select any one of eight sub-menus by the following procedures:

a) Press the ITEM +/- buttons to select a sub-menu; and press the ADJUST +/- buttons to enter the sub-menu.

b) Press one of the colour buttons once or twice, which corresponds with the colour of the sub-menu name, or


Press BLUE button to select BASIC or PIP MENU.
Press RED button to select PICTURE MENU 1 or 2.
MAIN MENU
BASIC
PIP
PICTURE 1
PICTURE 2
SOUND
SURROUND
SET UP 1
SET UP 2
Press GREEN button to select SOUND or SURROUND MENU.
Press YELLOW button to select SET UP MENU 1 or 2.

c) Simply press the MENU button repeatedly (normal TV mode) until your desired sub-menu screen appears; and press the ADJUST +/- buttons to enter the sub-menu.

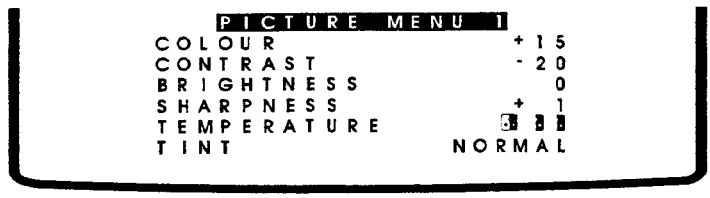
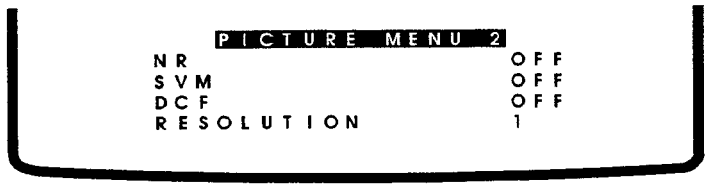
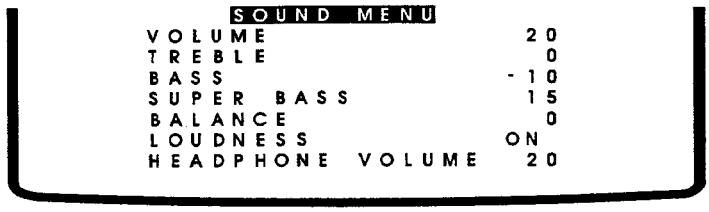
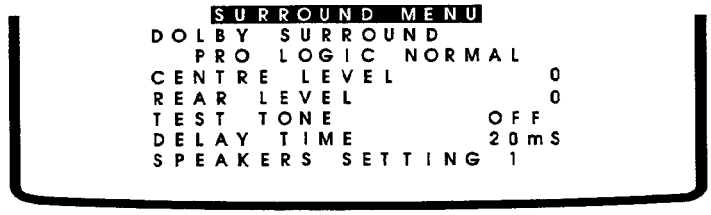
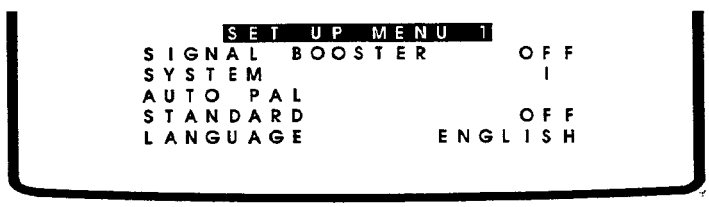
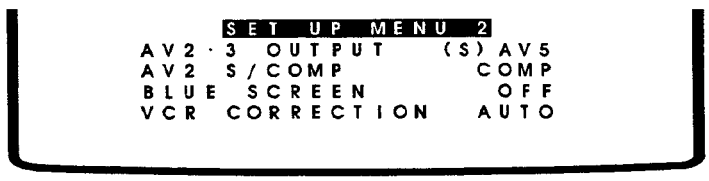
SUB-MENUS

Press the ITEM +/- buttons to select a function in the sub-menus; the selected function will flash. See section 11 - 19 for each function in detail.

Press the DISPLAY button to turn the MENU off.

SUB-MENUS	ON-SCREEN DISPLAY	FUNCTIONS AVAILABLE FOR ADJUSTMENT
BASIC MENU	BASIC MENU SWIVEL ◀◀◀ ▶▶▶ DISTANCE 2M 4M SENSOR MEMORY MOVIE	POWERED SWIVEL DISTANCE CONTROL ROOM LIGHT SENSOR AV MEMORY
PIP MENU	PIP MENU SIZE 1/9 SPECIAL STROBE SPEED 1/5SEC	PIP PICTURE SIZE SPECIAL SELECTION STROBE SPEED

SUB-MENUS (cont.)

SUB-MENUS	ON-SCREEN DISPLAY	FUNCTIONS AVAILABLE FOR ADJUSTMENT
PICTURE MENU 1		PICTURE ADJUSTMENTS •Colour •Contrast •Brightness •Sharpness •Colour Temperature •Tint
PICTURE MENU 2		PICTURE ADJUSTMENTS •Noise Reduction •Scan Velocity Modulation •Dynamic Comb Filter •Resolution Switch
SOUND MENU		SOUND ADJUSTMENTS •Volume •Treble •Bass •Super Bass •Balance •Loudness •Headphone Volume
SURROUND MENU		SURROUND ADJUSTMENTS •Surround Mode •Centre Speaker Level •Rear (surround) Level •Test Tone •Delay Time •Speakers Setting * The available functions will change according to the surround mode you select.
SET UP MENU 1		TV BOOSTER RECEPTION STANDARD COLOUR SYSTEM STANDARD LANGUAGE
SET UP MENU 2		AV2, AV3 OUTPUT SELECTION AV2 INPUT SELECTION BLUE BACK VCR CORRECTION

NOTE: The menu display will automatically disappear after 15 seconds if no buttons are pressed.

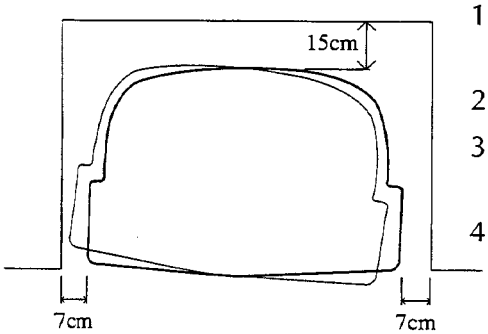
11 POWERED SWIVEL BASE

The POWERED SWIVEL BASE (or PSB) is an exclusive feature of this MITSUBISHI TV receiver. It allows you to swivel the TV by the remote control to either the left or right within a 15° angle.

1. It offers a wider range of positions where the viewer can sit.
2. It gives the viewer a more balanced sound separation from all speaker units.
3. It can be used to reduce or remove unwanted reflections from the screen (e.g. room lights, sunlight, etc.).

POSITIONING THE TV

Position the TV receiver in a place where there is enough space for it to turn - as shown in the diagram:



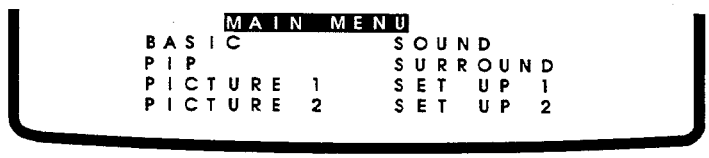
NOTES:

1. **DO NOT** place the receiver on a slope, an uneven surface or a shag pile carpet or rug.
2. **DO NOT** put any object under the receiver.
3. **DO NOT** put objects in between the TV and its pedestal base.
4. **DO** allow enough length in all cables connected to the TV so that they are not stretched or kinked when the TV is swivelling.

   A cable clip is provided to hold the AV cables so that they are not loosened by the action of swivelling the TV. You can fix the clip on right side of the connector panel.

TURNING THE TV

1. Press the MENU button on the TV or the remote control. The MAIN MENU display will appear on the screen:



2. Select "BASIC" using the ITEM +/- buttons and then press the ADJUST +/- buttons to enter the BASIC MENU, or simply press the BLUE button once.

3. Press the ITEM +/- buttons to select "SWIVEL". The on-screen display "SWIVEL" will flash.

4. Press the ADJUST "-" or "+" button to turn the TV to the left or right. The ▶ mark in the selected direction will flash.

5. Press the MENU button until the display disappears or press the DISPLAY button.

NOTE: The display will automatically disappear after 15 seconds if no buttons are pressed.

WARNING

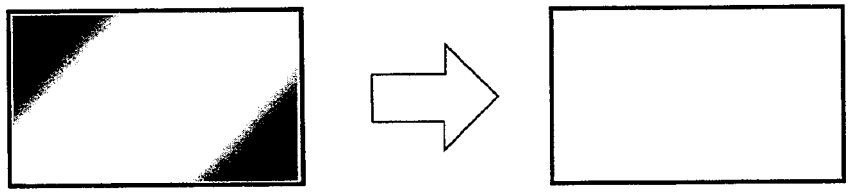
1. **DO NOT** put fingers or other objects between the TV and its pedestal base, especially while the set is turning. This may hurt the fingers or damage the objects as well as damaging the TV.
2. **DO NOT** turn the TV while any heavy object is placed on it.
3. **NEVER** lean or sit on the TV at any time, ESPECIALLY when it is turning.
4. **DO NOT** use the POWERED SWIVEL function continuously. The TV has not been designed for such use.

HOW AND WHEN TO USE THE DEGAUSSING FUNCTION

When the powered swivel is used, or if you place speakers too close to the set, the TV picture may show some "colour impurity" - this appears as coloured smudges in the corners of the pictures.

If this happens, press the DEGAUSSING button, marked DG, on the remote control unit.
The picture will disappear for a few seconds. When it returns, in most cases the colour impurity will have been removed. However, sometimes it may only have been reduced. In this case, leave the set as it is for a few minutes and try again.

If the DEGAUSSING button is pressed repeatedly, its effectiveness will decrease and the TV should be left for about 10 minutes to recover.



BEFORE DEGAUSSING

AFTER DEGAUSSING

12 DISTANCE CONTROL

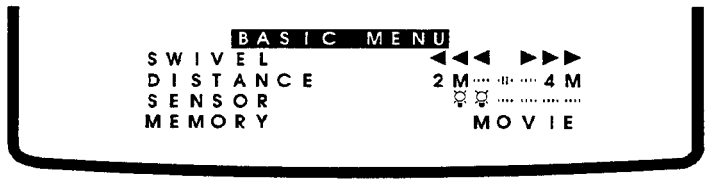
The best viewing position to watch this TV is about 3 m away from the TV.

If you would like to watch the TV closer or further than the best viewing position, adjust the picture suitable for your favourite viewing position by using on-screen menu function "DISTANCE."

ADJUSTING THE PICTURE SUITABLE FOR THE DISTANCE FROM THE TV

1. Press the MENU button on the TV or the remote control. The MAIN MENU display will appear on the screen.

2. Select "BASIC" using the ITEM +/- buttons and then press the ADJUST +/- buttons to enter the BASIC MENU, or simply press the BLUE button once.

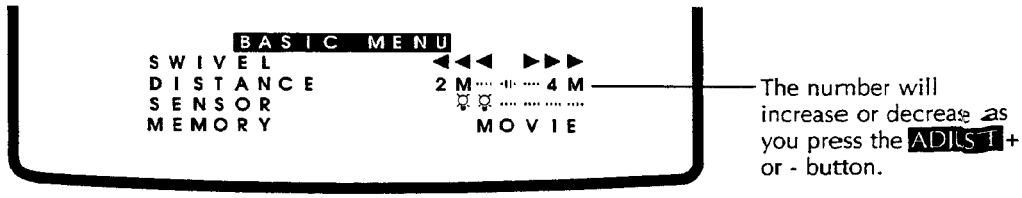


3. Press the ITEM +/- buttons to select "DISTANCE". The on-screen display "DISTANCE" will flash.

   The DISTANCE is set to centre position, which means the picture is adjusted suitable for watching the TV from about 3 m away.

4. Press the ADJUST "+" button if you watch the TV from the distance further than 3 m. The picture will become brighter and clearer. The "COLOUR" and "CONTRAST" level will be adjusted as you press the ADJUST "+" button.

   Press the ADJUST "-" button if you watch the TV from the distance closer than 3 m. The picture will become darker and softer. The "COLOUR" and "CONTRAST" level will be adjusted as you press the ADJUST "-" button.

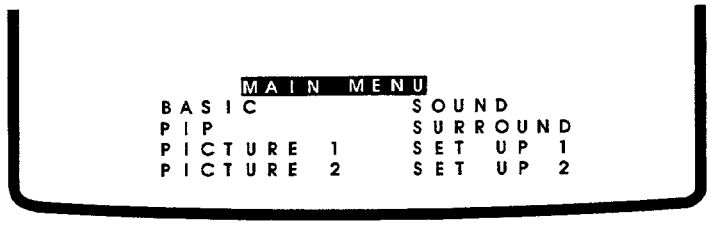


5. Press the MENU button until the display disappears or press the DISPLAY button.

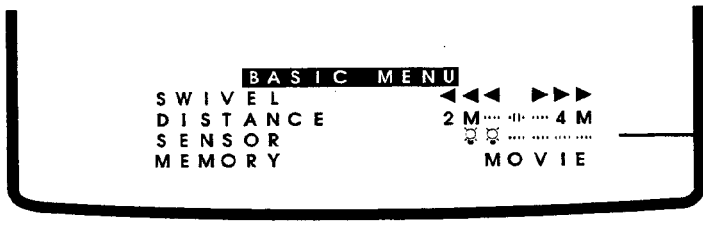
13 ROOMLIGHT SENSOR

This TV will automatically adjust "contrast" to a level suitable for the brightness of a room. In a bright room, the contrast is increased; in a darkened room, it is decreased.

1. Press the MENU button on the TV or the remote control. The MAIN MENU display will appear on the screen.



2. Select "BASIC" using the ITEM +/- buttons and then press the ADJUST +/- buttons to enter the BASIC MENU, or simply press the BLUE button once.



ROOMLIGHT INDICATOR
The number of indicators will change depending on the brightness of the room.

3. Select "SENSOR" using the ITEM +/- buttons. The on-screen display "SENSOR" will flash.
4. Select "OFF" or " (ON)" using the ADJUST +/- buttons.
5. Press the MENU button until the display disappears or press the DISPLAY button.

NOTE: Do not place any object in front of the roomlight sensor on the TV or the sensor may not work correctly.

When you select the roomlight sensor on in a darkened room, the on-screen display may not show the roomlight indicator " ". The on-screen display may show only an adjustment bar.

14 AV MEMORY

This TV has four "AV memories". These are preset picture and sound adjustments suitable for different types of programmes. There are two factory settings and two others that you can use to memorize your own preferred adjustments. You can change or replace these as much as you like.

Note that the volume level cannot be memorized separately for each AV memory.

The four memories are:

MOVIE --- soft picture and strong sound

MUSIC --- clear and lively picture and sound

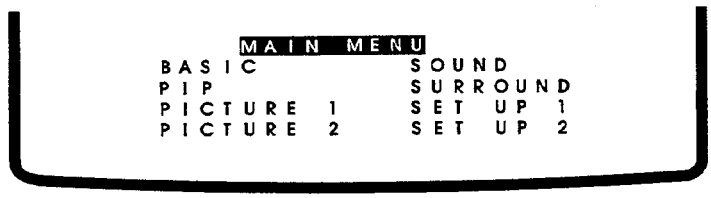
M1 and M2 --- normal picture and sound

NOTE: All memories are available for your own settings - see the following sections for details of sound and picture adjustments.

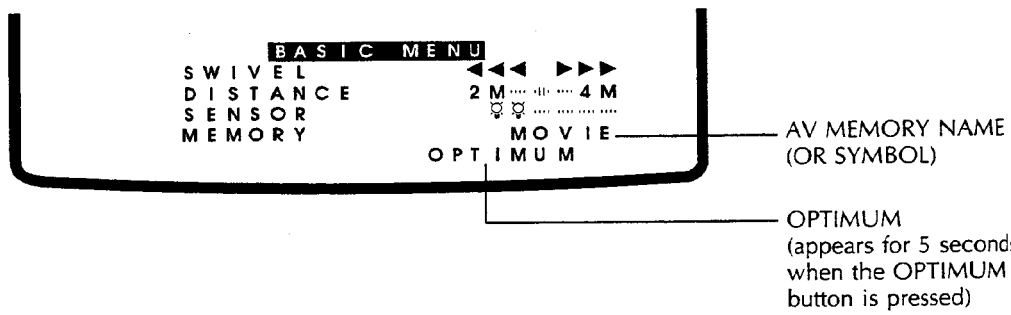
MENU	FUNCTION	SETTINGS		
		MOVIE	MUSIC	M1/M2
PICTURE 1	DISTANCE	CENTRE	CENTRE	CENTRE
	ROOM LIGHT SENSOR	OFF	OFF	OFF
	COLOUR	-3	0	0
	CONTRAST	-8	-4	0
	BRIGHTNESS	+5	0	0
	SHARPNESS	0	0	0
	COLOUR TEMPERATURE	MIDDLE	MIDDLE	MIDDLE
	TINT	0 or NORMAL	0 or NORMAL	0 or NORMAL
PICTURE 2	NR	OFF	OFF	OFF
	SVM	ON	ON	ON
	DCF	ON	ON	ON
	RESOLUTION	1	1	1
SOUND	TREBLE	0	+5	0
	BASS	+7	+5	0
	SUPER BASS	45	35	25
	BALANCE	0	0	0
	LOUDNESS	OFF	OFF	OFF
SURROUND	SURROUND MODE	SURROUND OFF	SURROUND OFF	SURROUND OFF

TO SELECT AN AV MEMORY

1. Press the MENU button on the TV or the remote control. The MAIN MENU display will appear on the screen.



2. Select "BASIC" using the ITEM +/- buttons and then press the ADJUST +/- buttons to enter the BASIC MENU, or simply press the BLUE button once.



3. Select "MEMORY" using the ITEM +/- buttons. The on-screen display "MEMORY" will flash.
4. Select the desired AV memory using the ADJUST +/- buttons.
5. Press the MENU button until the display disappears or press the DISPLAY button.

NOTES: The display will automatically disappear after 15 seconds if no buttons are pressed.

The "STANDARD" item in the on screen menu "SET UP 1" has two positions, ON or OFF. If STANDARD is set to ON, then the picture and sound adjustments except volume and headphone volume made in the MOVIE, MUSIC, M1 and M2 memory positions will not be retained and the AV memory will change to M1 memory when the TV is turned off with the MAINS SWITCH. To make full use of the MOVIE, MUSIC, M1 and M2 memories, set STANDARD to OFF.

OPTIMUM

To reset an AV MEMORY to the factory setting:

Press the OPTIMUM button to reset all of the picture and sound functions (except volume and headphone volume) to the factory preset levels.

If you press the button when any one of the picture or sound functions is on the screen, only the displayed function is reset.

15 PIP AND POP

PIP (picture-in-picture) allows you to watch two different images at the same time; one is a TV screen size image and the other is a reduced (PIP) image.

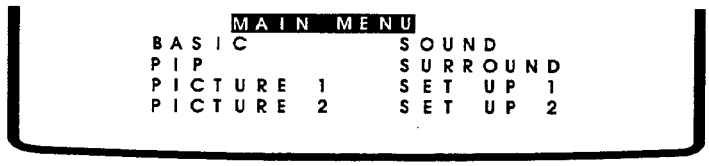
On the other hand, POP (picture-out of-picture) displays four different images at the same time; one is a TV screen size image and the other three are reduced (POP) images.

NOTE: PIP or POP is not available if you use Teletext function.

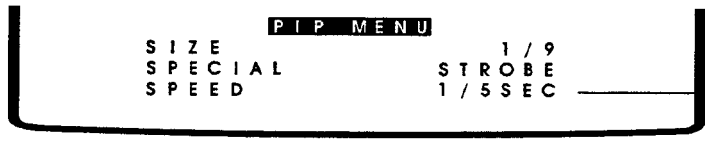
PREPARING FOR USING PIP AND POP

PIP functions are set using the MENU, ITEM +/- and ADJUST +/- buttons.

1. Press the MENU button on the TV or the remote control. The MAIN MENU display will appear on the screen.



2. Select "PIP" using the ITEM +/- buttons and then press the ADJUST +/- buttons to enter the PIP MENU, or simply press the BLUE button twice.



3. Select one of the PIP functions using the ITEM +/- buttons. The selected function will flash.
4. Select the setting using the ADJUST +/- buttons.
5. When you finish, press the MENU button until the display disappears or press the DISPLAY button.

NOTE: The display will automatically disappear after 15 seconds if no buttons are pressed.

SIZE

Select the size of the reduced PIP image between "1/4" and "1/9" using the ADJUST +/- buttons.

SPECIAL

Select any one of the SPECIAL functions for PIP and POP using the ADJUST +/- buttons.

Press the SPECIAL button to operate the selected function. Press again to cancel it.

- STILL Select "STILL" to freeze the reduced (PIP or POP) image. The reduced images switch between still and moving.
- STROBE Select "STROBE" to view the still reduced (PIP or POP) image in sequence for a strobe animation effect. These images will appear at the speed you select.

- SEARCH Select "SEARCH" to display the channels which the TV can receive in the reduced (PIP or POP) image. The channels will be changing continuously until "SEARCH" is cancelled. When the channel search tuning has finished, channel will stop at the last searched one. This is available only when you select TV mode for the reduced image.

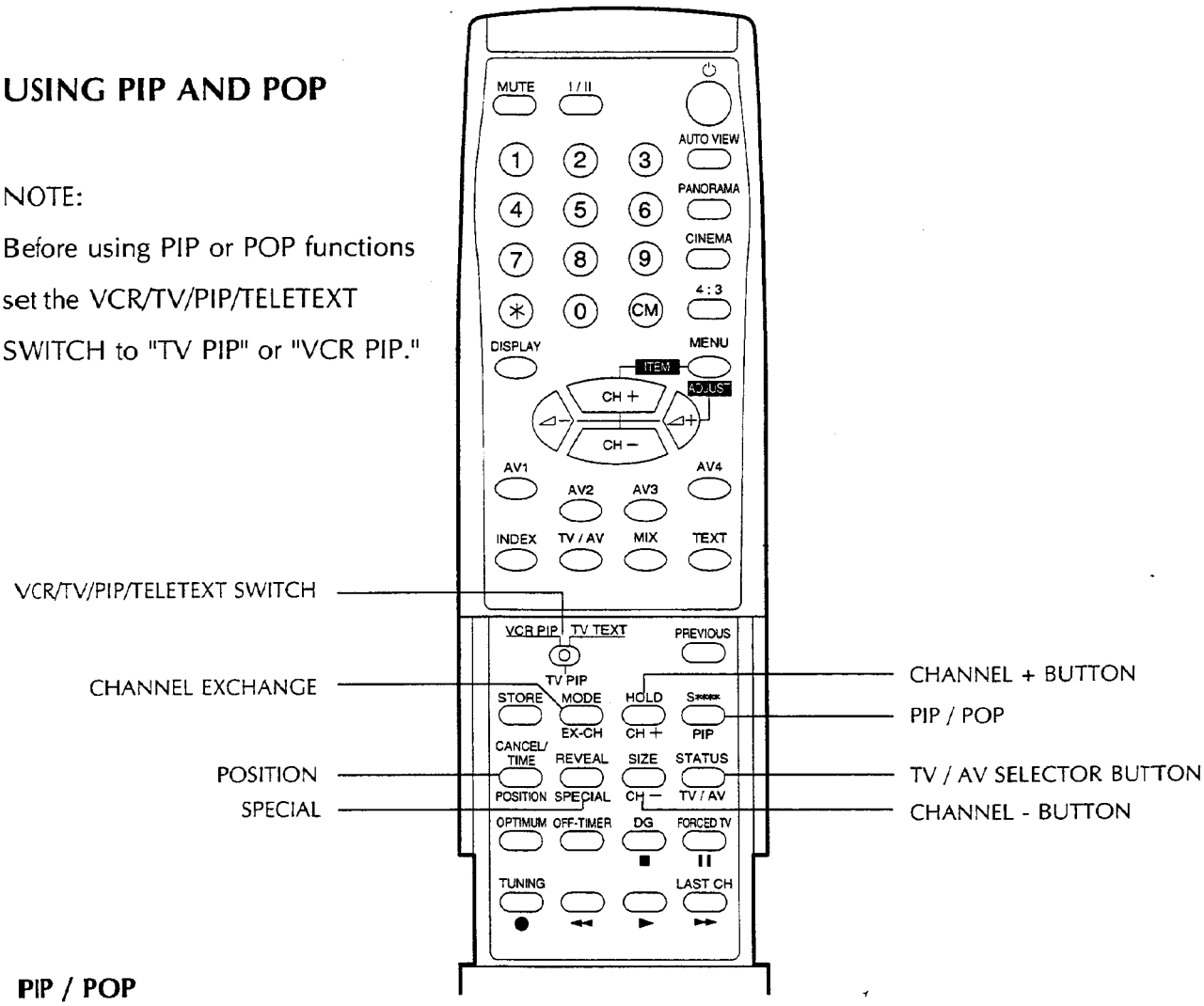
SPEED (appears only when "STROBE" of the SPECIAL functions is selected.)

Select a STROBE SPEED from "1/5SEC" (1/5 second), "1/2SEC" (1/2 second) or "1SEC" (1 second) using the ADJUST +/- buttons.

USING PIP AND POP

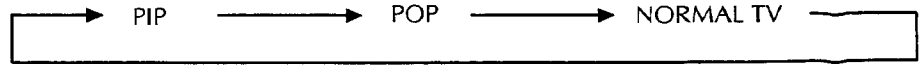
NOTE:

Before using PIP or POP functions set the VCR/TV/PIP/TELETEXT SWITCH to "TV PIP" or "VCR PIP."



PIP / POP

Press the PIP / POP button repeatedly to select PIP or POP.
The image shown on the screen will change as follows:



NOTE: POP is available only when the background image is 4:3 ratio screen size.
NOTE: If the reduced image is a wide screen programme:
- PIP image will appear in wide screen size.
- POP is not available. POP will be cancelled and changed to PIP mode.

TV / AV SELECTOR BUTTON

Press repeatedly to select either TV operation or the AV source for the reduced (PIP or POP) image to be viewed - TV, AV1, AV2, AV3, AV4 or AV5.

CHANNEL +/- BUTTONS

Press to change the channel of the reduced (PIP or POP) image when you select TV channel for the reduced image.

CHANNEL EXCHANGE

Press to exchange the positions of the background image and the reduced image.

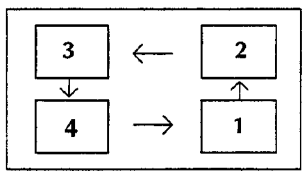
NOTE: The channel exchange is not available if the background image is SCART AV1~4 input source.

NOTE: While recording the TV signals of AV1~4, note that TV channel of AV2·3 OUTPUT will change if you exchange the positions of the background image (TV's channel) and the reduced image (TV's another channel).

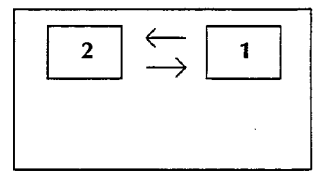
POSITION

Press to change the position of the reduced image. The position will move as shown below.

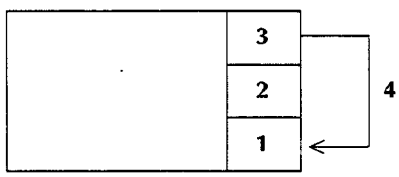
(PIP)



(PIP in CAPTION mode)



(POP)



* If you change the screen size of background image from CINEMA to CAPTION, the bottom positions of PIP image will move to the upper positions.

SPECIAL

Press to operate a function you have selected for the SPECIAL function in the PIP MENU.
For setting, see page 23 for detail.

Still:

The reduced images switch between still and moving.

Strobe:

You can get a strobe animation effect for the reduced image. In POP, the first still image will appear at the position of the last moving image. Then the still image will appear in the upper position.

Search: (available only when you select TV mode for the reduced image)

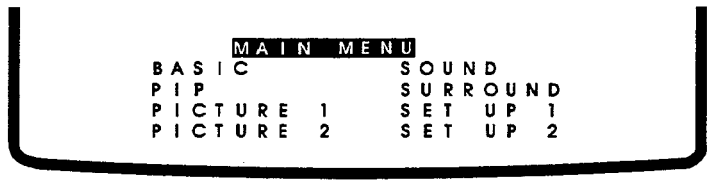
The TV will start the automatic channel search upwards from the lowest channel position set to SKIP: OFF. If all channels are skipped over, the TV will stop at the last channel position just before searching channels. The channels will appear to be still in the reduced image. In POP, the first searched channel will be displayed in the bottom position; then it moves to the upper position. After channel searching, the last channel position you viewed will appear to be moving in the upper position of the last tuned channel.

16 PICTURE ADJUSTMENTS

Picture adjustments are made using the MENU, ITEM +/- and ADJUST +/- buttons.

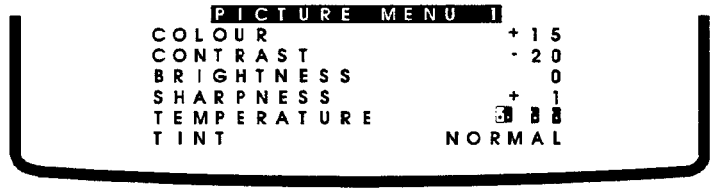
Before adjustment, select the desired AV memory. See section 14 "AV MEMORY".

1. Press the MENU button on the TV or the remote control. The MAIN MENU display will appear on the screen.

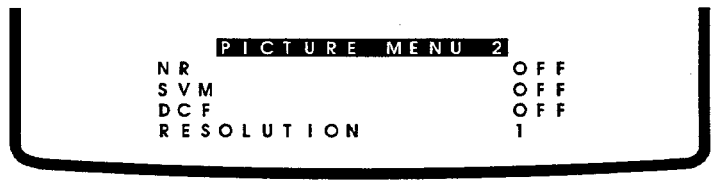


2. Select "PICTURE 1" or "PICTURE 2" using the ITEM +/- buttons and then press the ADJUST +/- buttons to enter the MENU, or simply press the RED button once for "PICTURE 1" and twice for "PICTURE 2."

PICTURE MENU 1



PICTURE MENU 2



3. Select one of the picture functions using the ITEM +/- buttons. The selected function will flash.
4. Adjust the level or setting using the ADJUST +/- buttons.
5. When you finish, press the MENU button until the display disappears or press the DISPLAY button.

NOTE: The display will automatically disappear after 15 seconds if no buttons are pressed.

PICTURE MENU 1

COLOUR

Adjust the strength of the colours by pressing the ADJUST "+" button to make them stronger or the "-" button to make them weaker.

NOTE: Colour adjustment is not possible in TELETEXT mode or when using the RGB input of the AV-1 and AV-4 connector.

CONTRAST

Press the ADJUST "+" button to increase the contrast and the "-" button to reduce it.

The contrast setting should be adjusted to suit the brightness of your surroundings if you set "SENSOR" (the roomlight sensor) to "OFF". A bright room will need a higher contrast setting than a darkened room.

When you set "SENSOR" to " ☼ " (ON), the contrast will be adjusted automatically depending on the brightness of a room. In a bright room, the contrast is increased; in a darkened room, it is decreased. It can still be adjusted manually if required.

BRIGHTNESS

Use the ADJUST "+" and "-" buttons to adjust the picture so that the black parts of the picture are only just black. That is, you should be able to see detail in the dark areas but the black parts should be black and not grey. You should not need to adjust the BRIGHTNESS control very often.

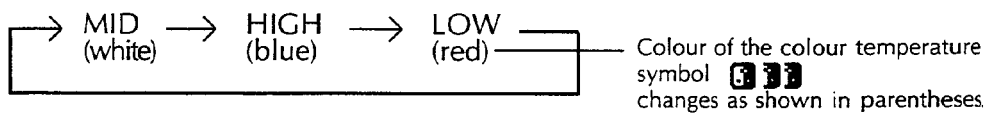
SHARPNESS

This is used to change how sharp the picture looks. Pressing the ADJUST "+" button makes the picture seem sharper, pressing the "-" button makes it softer.

NOTE: Sharpness adjustment is not possible in TELETEXT mode or when using the RGB input of the AV-1 and AV-4 connector.

COLOUR TEMPERATURE

This feature allows you to change the picture to a slightly warmer or slightly cooler tone, that is slightly red or slightly blue. Press the ADJUST "+" or "-" button to adjust the setting.



TINT

Press the ADJUST "+" button and "-" button to adjust the tint of the picture. Use skin colours to judge when the setting is correct.

The tint setting will change from NORMAL to GREEN to RED when watching a PAL or SECAM programme and from -40 to +40 when watching an NTSC programme.

PICTURE MENU 2

NR (Noise Reduction)

This is used to reduce background picture noise that can occur with weak signals. It is of most use when watching programmes from an external source such as a VCR. Switch "ON" or "OFF" using the ADJUST +/- buttons.

SVM (Scan Velocity Modulation)

This feature allows you to improve the picture outlines. Set "ON" or "OFF" using the ADJUST +/- buttons. When setting to "ON", the picture outline will become clear; to "OFF", the picture outline will be natural.

DCF (Digital Comb Filter)

This is used to reduce the interference between luminance and colour signal. Switch "ON" or "OFF" using the ADJUST +/- buttons. This feature has no effect when you select (S) AV 2 or (S) AV 5 mode.

RESOLUTION (Horizontal Resolution)

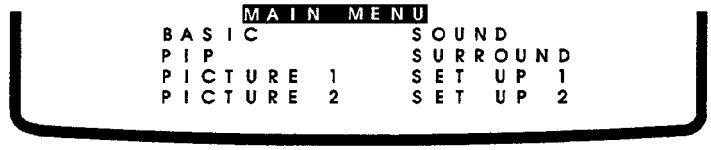
Usually it is advisable to set "RESOLUTION" to "1", that gives you a picture of high resolution. When in a weak signal condition or watching a deteriorated video tapes, set "RESOLUTION" to "2". Switch "1" or "2" using the ADJUST +/- buttons.

17 SOUND ADJUSTMENTS

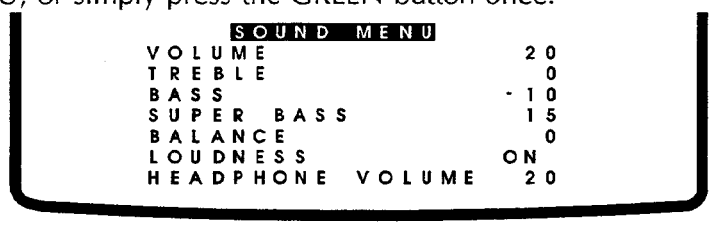
Sound adjustments are made using the MENU, ITEM +/- and ADJUST +/- buttons.

Before adjustment, select the desired AV memory. See section 14 "AV MEMORY".

1. Press the MENU button on the TV or the remote control. The MAIN MENU display will appear on the screen.



2. Select "SOUND" using the ITEM +/- buttons and then press the ADJUST +/- buttons to enter the SOUND MENU, or simply press the GREEN button once.



3. Select one of the sound functions using the ITEM +/- buttons. The selected function will flash.
4. Adjust the level or setting using the ADJUST +/- buttons.
5. When you finish, press the MENU button until the display disappears or press the DISPLAY button.

NOTE: The display will automatically disappear after 15 seconds if no buttons are pressed.

VOLUME

Press the ADJUST "+" or "-" button to increase or decrease the volume.

TREBLE

Adjust the level of high-frequency sounds by pressing the ADJUST "+" button to increase them or the "-" button to reduce them.

BASS

Adjust the volume of low-frequency sounds by pressing the ADJUST "+" button to increase them or the "-" button to reduce them.

SUPER BASS

This is used to change the volume of the extra-low frequency sound from the woofer speaker. Press the ADJUST "+" or "-" button to adjust the level as desired.

NOTE: When using headphones or connecting an external equipment to the AUDIO output, super bass does not function.

BALANCE

Press the ADJUST "-" button to increase the volume from the left loudspeaker. Press the ADJUST "+" button to increase the volume from the right.

LOUDNESS

Select "ON" or "OFF" using the ADJUST "+" or "-" button for your preference.

Selecting "LOUDNESS ON" boosts the low and high frequencies at the low volume and compensates for reduced sensitivity of human hearing at low volumes.

HEADPHONE VOLUME

Press the ADJUST "+" button to turn up the headphone volume and the ADJUST "-" button to reduce it.

18 SURROUND SYSTEM

"SURROUND" sound is a multiple speaker system that lets you experience a surrounding stereophonic sound. To reproduce sound in an exciting and natural way, this TV has "SURROUND OFF", "* DOLBY SURROUND PRO LOGIC", "DIGITAL SURROUND" and "SURROUND OFF PSEUDO STEREO" mode. You can set up surround sound by using the on-screen surround menu. "DOLBY SURROUND" is the most suitable when viewing programmes that are made with the Dolby surround soundtracks. Pre-recorded video tapes and laser discs can be easily identified by the DOLBY SURROUND printing on the package. TV programmes also show this type of indication in their credits. This has two modes: PRO LOGIC NORMAL, PRO LOGIC PHANTOM. "DIGITAL SURROUND" mode gives you a surrounding sound for TV programmes and AV sources, and has four modes: THEATRE, CONCERT HALL, STADIUM, DISCO. "SURROUND OFF PSEUDO STEREO" gives you a stereophonic impression for the mono programmes.

* Manufactured under license from Dolby Laboratories Licensing Corporation.

DOLBY, the double-D symbol ⧈ and "PRO LOGIC" are trademarks of Dolby Laboratories Licensing Corporation.

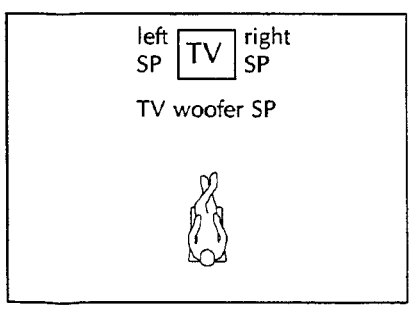
SETTING UP THE SPEAKERS

If you wish to take full advantage of Dolby Pro Logic technology, you need to select DOLBY SURROUND PRO LOGIC NORMAL mode for sounding the centre channel signal. This enables you to hear dialogue from the centre for realistic localization of voices. The rest of the soundtrack comes from the left and right speakers, with special effects sent to the rear for a "three dimensional" effect. You can connect an external centre speaker to this TV for the centre channel signal. (The optional TV stand has a built-in centre speaker.) You can also use the TV's internal left/right speakers for the centre channel. If so, you need the external speakers for the Left and Right channels.

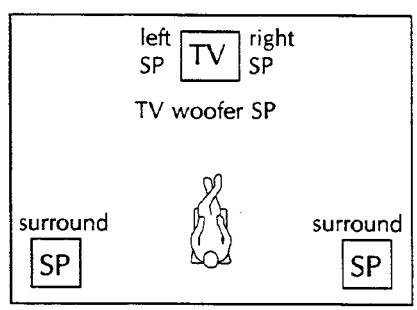
You will obtain the best surround effect from the combination of speakers (two left/right speakers, a centre speaker, a woofer speaker, two surround rear speakers). See section 25 "CONNECTORS".

Examples for setting up speakers are shown below.

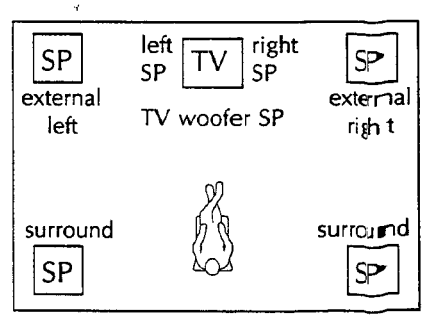
(1) only TV



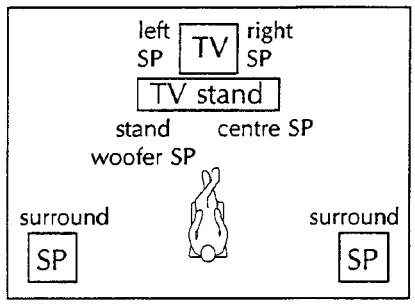
(2) TV+surround(rear) speakers



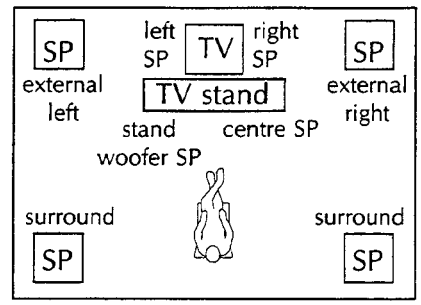
(3) TV+surround(rear) speakers+external speakers



(4) TV+surround(rear) speakers+TV stand



(5) TV+surround(rear) speakers+external speakers+TV stand



SURROUND MODE

This TV is equipped with "SURROUND OFF", "DOLBY SURROUND PRO LOGIC", "DIGITAL SURROUND" and "SURROUND OFF PSEUDO STEREO" mode.

1) "SURROUND OFF" . . . gives you normal sound.

2) "DOLBY SURROUND PRO LOGIC"

- PRO LOGIC NORMAL . . . . . most suitable to view Dolby Surround AV sources. With Dolby Pro Logic, the surround effect is more natural and lifelike around the whole viewing area than with other surround sound systems. This is accomplished, in part, by the use of a centre channel speaker for normal sound, such as dialogue.
- PRO LOGIC PHANTOM . . . gives you the Pro Logic sound even if you do not use a centre speaker. The centre signal is divided between the left and right speakers.

3) "DIGITAL SURROUND"

- THEATRE
- CONCERT HALL
- STADIUM
- DISCO

. . . creates the impression of surround sound from a normal sound source. Choose one to suit your programme and taste. For example, use STADIUM for football matches, THEATRE for chamber music, CONCERT HALL for symphonies, DISCO for music programmes and so on.

4) "SURROUND OFF PSEUDO STEREO" . . . creates the impression of stereo sound from a mono programme.

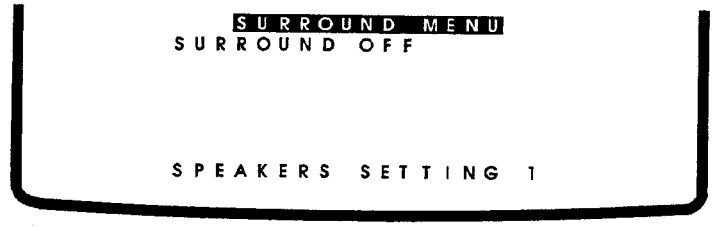
SETTING UP SURROUND SOUND

Surround are set using the MENU, ITEM +/- and ADJUST +/- buttons.

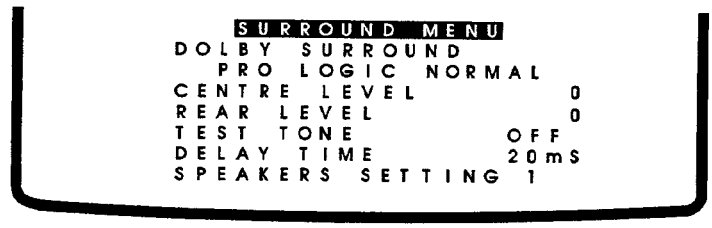
1. Press the MENU button on the TV or the remote control. The MAIN MENU display will appear on the screen.

2. Select "SURROUND" using the ITEM +/- buttons and then press the ADJUST +/- buttons to enter the MENU, or simply press the GREEN button twice.

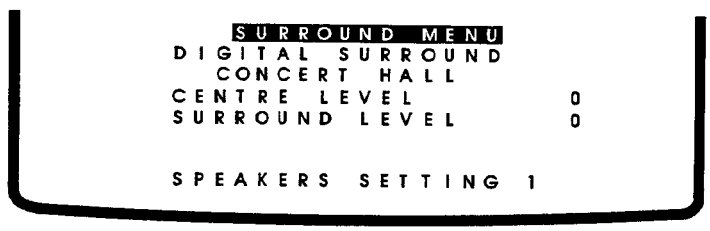
"SURROUND OFF"



"DOLBY SURROUND"



"DIGITAL SURROUND"



3. Select one of the surround modes (SURROUND OFF, PRO LOGIC NORMAL, PRO LOGIC PHANTOM, THEATRE, CONCERT HALL, STADIUM, DISCO, PSEUDO STEREO) using the ADJUST +/- buttons.
4. Select the function of surround adjustment using the ITEM +/- buttons and set each function using the ADJUST +/- buttons.
5. When you finish, press the MENU button until the display disappears or press the DISPLAY button.

NOTE: The display will automatically disappear after 15 seconds if no buttons are pressed.

SURROUND OFF/DOLBY SURROUND/DIGITAL SURROUND/SURROUND OFF PSEUDO STEREO

Select the appropriate surround mode. See "SURROUND MODE" and "COMBINATION OF AV SOURCE AND THE SURROUND MODE" on the following pages of this section.

CENTRE LEVEL (only for DOLBY PRO LOGIC NORMAL, DIGITAL SURROUND)

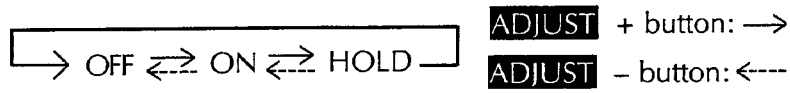
Adjust the volume of centre speaker by pressing the ADJUST "+" button to raise them or the "-" to lower them.

REAR LEVEL (for DOLBY PRO LOGIC), SURROUND LEVEL (for DIGITAL SURROUND)

Adjust the volume of surround (rear) speakers by pressing the ADJUST "+" button to raise them or the "-" to lower them.

TEST TONE (for DOLBY PRO LOGIC)

This TV produces a sound signal to help you adjust the volume of the left, centre, right and surround (rear) speakers. The test signal will sound on each sound channel; you can adjust the balance of surround sound. Select "ON" to start the test mode by pressing the ADJUST button. The sequence for the test tone is in the following order: Left, Centre, Right, Surround (rear). Adjust the sound balance in order that you can hear the sound from each speaker in the same volume at your listening position. You can select "HOLD" to hold the test tone of the speaker you are hearing on any of the four sound channels. Select "OFF" to cancel the test mode.

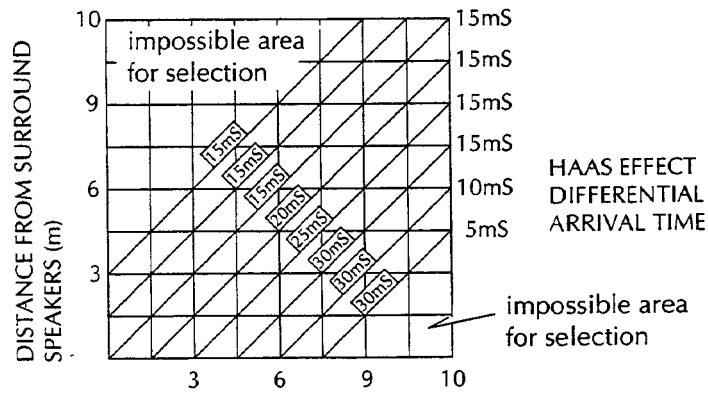


NOTE: When you select test tone to "ON" or "HOLD", the menu will not disappear automatically.

The test tone will stop if you turn the MENU off.

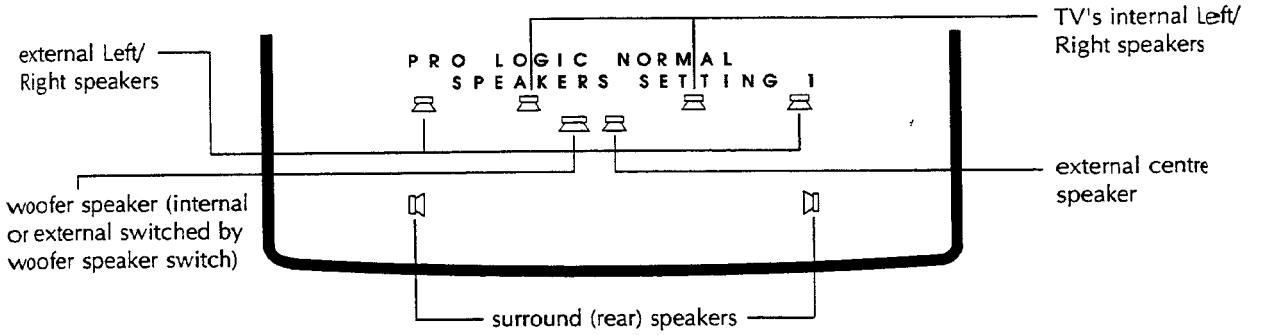
DELAY TIME (for DOLBY PRO LOGIC)

Use the time delay to increase or decrease the delay effect between the front and surround (rear) speakers. The delay is calculated by determining how far your listening position is from the front and surround (rear) speakers. Adjust the time delay from 15 to 30 miliseconds (mS) by pressing the ADJUST button. Refer to the following figure.



SPEAKERS SETTING

Select the type of speakers setting for your selected surround mode by pressing the ADJUST button.



(BLUE) : indicates that the speaker is used. The character mentioned with the speaker symbol indicates the speaker's signal.

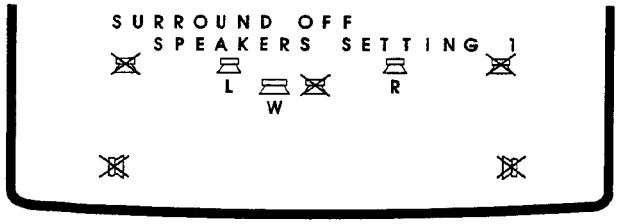
L: Left channel signal C: Centre channel signal W: Woofer channel signal

R: Right channel signal S: Surround (rear) channel signal

(RED) : indicates that the speaker is not used.

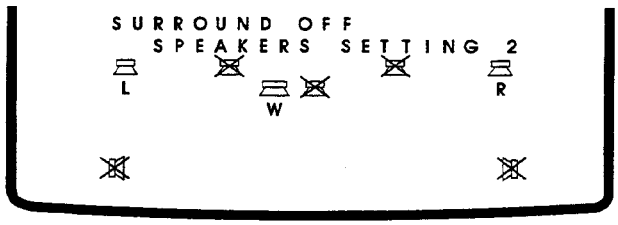
<TYPE OF SPEAKERS SETTING IN EACH SURROUND MODE>

SURROUND OFF



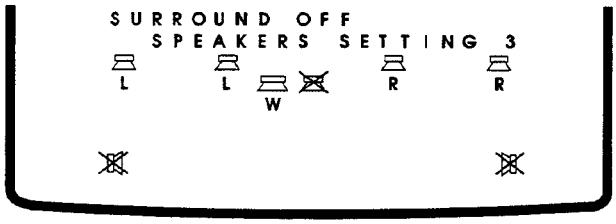
SPEAKERS SETTING 1

The left/right channel sounds from the TV's internal left/right speakers.



SPEAKERS SETTING 2

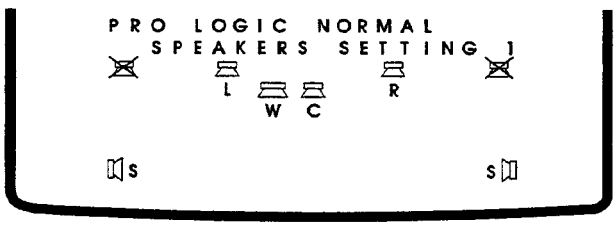
The left/right channel sounds from the external left/right speakers.



SPEAKERS SETTING 3

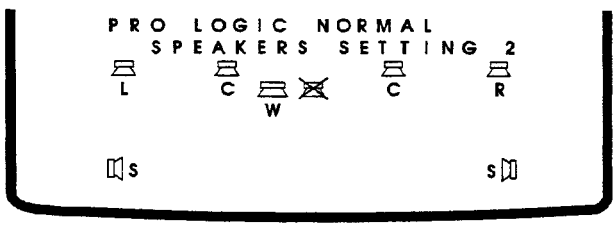
The left/right channel sounds from the TV's internal and external left/right speakers.

PRO LOGIC NORMAL



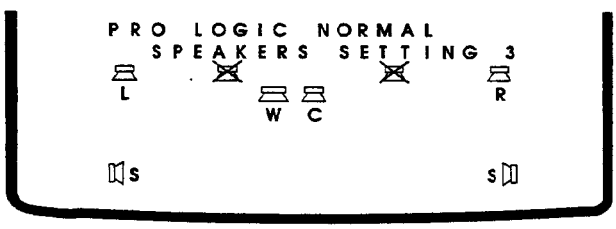
SPEAKERS SETTING 1

The left/right channel sounds from the TV's internal left/right speakers. The centre channel sounds from the external centre speaker. The surround (rear) channel sounds from surround (rear) speakers.



SPEAKERS SETTING 2

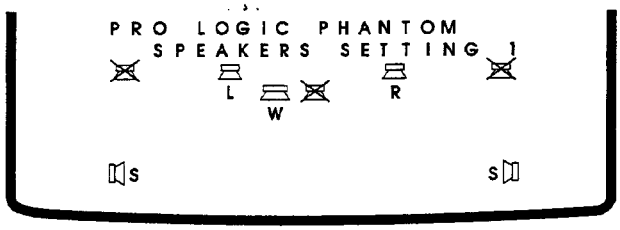
The left/right channel sounds from the external left/right speakers. The TV's internal speakers are used as centre speakers. The surround (rear) channel sounds from surround (rear) speakers.



SPEAKERS SETTING 3

The left/right channel sounds from the external left/right speakers. The centre channel sounds from the external centre speaker. The surround (rear) channel sounds from surround (rear) speakers. The TV's internal left/right speakers are not used. If you select this SPEAKERS SETTING, the display of "FRONT SPEAKERS OFF" will appear on the screen when you change channels or AV source, and turn the TV on.

PRO LOGIC PHANTOM



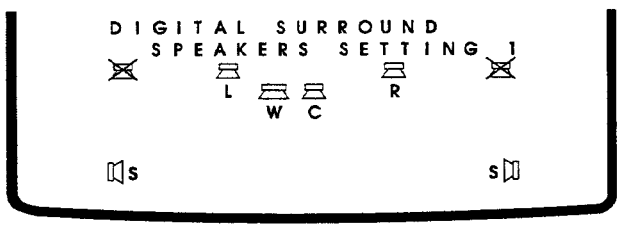
SPEAKERS SETTING 1

The left/right channel sounds from the TV's internal left/right speakers. The surround (rear) channel sounds from surround (rear) speakers.

SPEAKERS SETTING 2

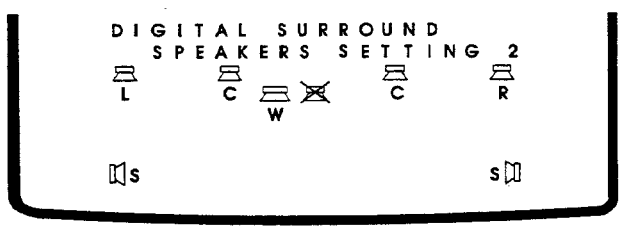
The left/right channel sounds from the external left/right speakers. The surround (rear) channel sounds from surround (rear) speakers. The TV's internal left/right speakers are not used. If you select this SPEAKERS SETTING, the display of "FRONT SPEAKERS OFF" will appear on the screen when you change channels or AV source, and turn the TV on. If you use external left/right speakers, it is better to select SPEAKERS SETTING 2 of "PRO LOGIC NORMAL".

DIGITAL SURROUND



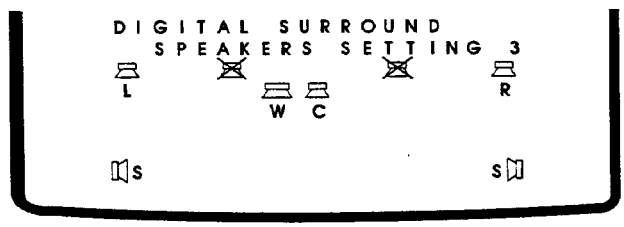
SPEAKERS SETTING 1

The left/right channel sounds from the TV's internal left/right speakers. The centre channel sounds from the external centre speaker. The surround (rear) channel sounds from surround (rear) speakers.



SPEAKERS SETTING 2

The left/right channel sounds from the external left/right speakers. The TV's internal speakers are used as centre speakers. The surround (rear) channel sounds from surround (rear) speakers.



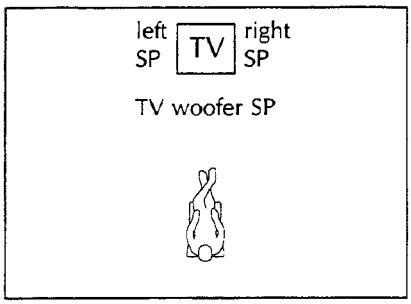
SPEAKERS SETTING 3

The left/right channel sounds from the external left/right speakers. The centre channel sounds from the external centre speaker. The surround (rear) channel sounds from surround (rear) speakers. The TV's internal left/right speakers are not used. If you select this SPEAKERS SETTING, the display of "FRONT SPEAKERS OFF" will appear on the screen when you change channels or AV source, and turn the TV on.

COMBINATION OF AV SOURCE AND THE SURROUND MODE

According to your speaker system and the AV source, you can select the appropriate surround mode and speakers setting mode by using the on-screen SURROUND MENU. See the previous page for using the menu.

(1) only TV



normal AV source

- Select "SURROUND OFF" and "SPEAKERS SETTING 1".
- Select "DIGITAL SURROUND" and "SPEAKERS SETTING 1".

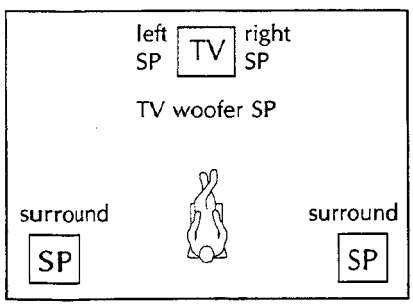
(if mono programme)

- Select "SURROUND OFF PSEUDO STEREO" and "SPEAKERS SETTING 1".

Dolby surround source

This system is not suitable for Dolby surround source. If you view the Dolby surround source, select "SURROUND OFF" and "SPEAKERS SETTING 1". It is necessary to connect surround (rear) speakers at least to enjoy Dolby surround source appropriately.

(2) TV+surround(rear) speakers



normal AV source

- Select "SURROUND OFF" and "SPEAKERS SETTING 1". In this mode, the surround (rear) speakers will not sound.
- Select "DIGITAL SURROUND" and "SPEAKERS SETTING 1".

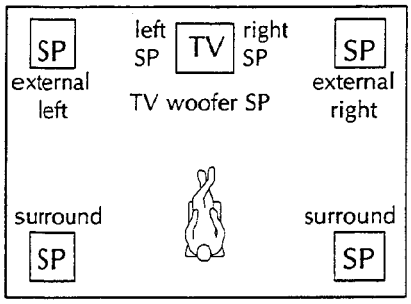
(if mono programme)

- Select "SURROUND OFF PSEUDO STEREO" and "SPEAKERS SETTING 1". In this mode, the surround (rear) speakers will not sound.

Dolby surround source

Select "PRO LOGIC PHANTOM" and "SPEAKERS SETTING 1".

(3)TV+surround(rear) speakers+front speakers



normal AV source

- Select "SURROUND OFF" and "SPEAKERS SETTING 2 or 3". In this mode, the surround (rear) speakers will not sound.
- Select "DIGITAL SURROUND" and "SPEAKERS SETTING 2".

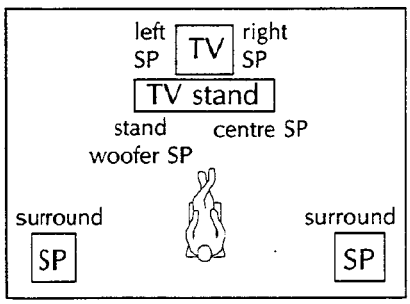
(if mono programme)

- Select "SURROUND OFF PSEUDO STEREO" and "SPEAKERS SETTING 2 or 3". In this mode, the surround (rear) speakers will not sound.

Dolby surround source

Select "PRO LOGIC NORMAL" and "SPEAKERS SETTING 2".

(4)TV+surround(rear) speakers+TV stand



normal AV source

- Select "SURROUND OFF" and "SPEAKERS SETTING 1". In this mode, the surround (rear) speakers will not sound.
- Select "DIGITAL SURROUND" and "SPEAKERS SETTING 1".

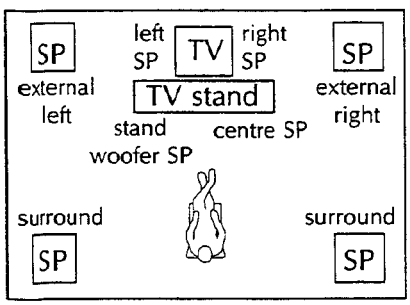
(if mono programme)

- Select "SURROUND OFF PSEUDO STEREO" and "SPEAKERS SETTING 1". In this mode, the surround (rear) speakers will not sound.

Dolby surround source

Select "PRO LOGIC NORMAL" and "SPEAKERS SETTING 1".

(5) TV+surround(rear) speakers+front speakers+TV stand



normal AV source

- Select "SURROUND OFF" and "SPEAKERS SETTING 2 or 3". In this mode, the surround (rear) speakers will not sound.
- Select "DIGITAL SURROUND" and "SPEAKERS SETTING 3" (or "SPEAKERS SETTING 2".

(if mono programme)

- Select "SURROUND OFF PSEUDO STEREO" and "SPEAKERS SETTING 2 or 3". In this mode, the surround (rear) speakers will not sound.

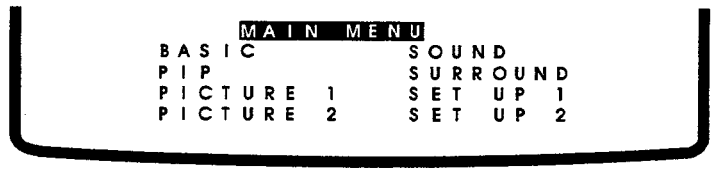
Dolby surround source

Select "PRO LOGIC NORMAL" and "SPEAKERS SETTING 3" ("SPEAKERS SETTING 2").

19 SET UP FUNCTIONS

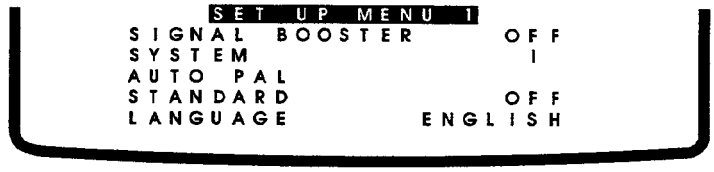
Set up functions are set using the MENU, ITEM +/- and ADJUST +/- buttons.

1. Press the MENU button on the TV or the remote control. The MAIN MENU display will appear on the screen.

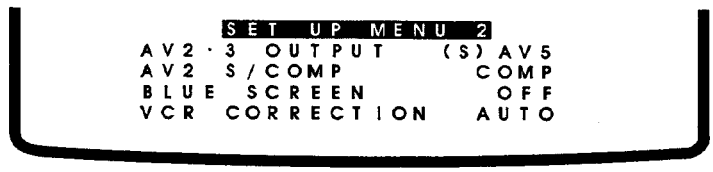


2. Select "SET UP 1" or "SET UP 2" using the ITEM +/- buttons and then press the ADJUST +/- buttons to enter the MENU, or simply press the YELLOW button once for "SET UP 1" and twice for "SET UP 2."

SET UP MENU 1



SET UP MENU 2



3. Select one of the set up functions using the ITEM +/- buttons. The selected function will flash.
4. Set each function using the ADJUST +/- buttons.
5. When you finish, press the MENU button until the display disappears or press the DISPLAY button.

NOTE: The display will automatically disappear after 15 seconds if no buttons are pressed.

SET UP MENU 1

TV BOOSTER (SIGNAL BOOSTER)

Usually it is advisable to set "SIGNAL BOOSTER" to "ON," that makes the received signal stronger. If the signal received is too strong, set "SIGNAL BOOSTER" to "OFF."

Note that the setting and function of "SIGNAL BOOSTER" are changed depending on the language you have selected.

RECEPTION STANDARD (SYSTEM)

Select the reception standard. The display changes from I to L, DK and BG.

COLOUR SYSTEM

The colour system can be set as follows: AUTO, SECAM, 3.58NTSC, 4.43NTSC, or PAL.

The selected colour system in "AUTO" mode is displayed the right next to the word "AUTO" on the screen, e.g. "AUTO PAL." Normally the "AUTO" setting is adequate. However, in some cases of poor signal conditions in either TV or AV mode you should select the colour system manually.

Note that any setting of the colour system will be reset to "AUTO" mode.

Note that any change of setting will be lost when you change channel or select a new AV input.

NOTE: When receiving the monochrome video source (only case of 60Hz system), the picture quality may be under the bad condition - 1) you get an unstable picture, 2) you get a bad picture of quality, 3) a picture is flickering, etc. In this case, set the colour system to "3.58NTSC" to get a stable picture.

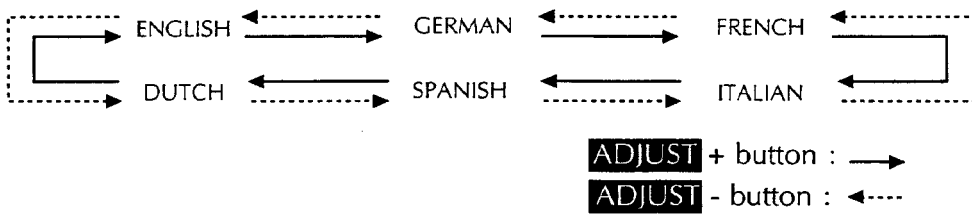
STANDARD

Normally it is recommended to set "STANDARD" to "OFF". When in "OFF" mode, all the picture and sound settings you have adjusted remain even if the MAINS switch is turned off. Set "STANDARD" to "ON", if you would like to return to the factory preset levels for all the picture and sound adjustments except volume and headphone volume every time the MAINS switch is turned off and on. In this case the AV memory will change to M1 memory.

NOTE: The TV leaves the factory with STANDARD set to "ON".

LANGUAGE SELECTION

You can select any one of 6 languages for the on-screen display.



SET UP MENU 2

AV2·AV3 OUTPUT (AV2·3 OUTPUT)

The AV2 and AV3 output can be switched between the "TV" signal and "AV1", "AV2", "(S)AV2", "AV3", "AV4", "AV5" and "(S)AV5" input signal. Select the AV2 or AV3 output using the ADJUST +/- buttons. Note that if you have connected an S-video type equipment to the AV2 or AV5 input, the on-screen display will show "(S)AV2" or "(S)AV5" in place of simply "AV2" or "AV5".

NOTE: The S-video signal of an S-VHS VCR connected to the S-video input of the AV2 or AV5 is output as a composite signal from the AV3 socket.

NOTE: VIDEO OUT and AUDIO OUT R/L of AV2 or AV3 are the selected output in "AV2·AV3 OUTPUT" of "SET UP MENU 2." When you select AV2 (or AV3) source in the following case, the test pattern will appear or strange sound will be heard.

- The VCR is connected to AV2 (or AV3) SCART socket.
- The AV2 and AV3 output is switched to "AV2" (or AV3) in "AV2·AV3 OUTPUT" of "SET UP MENU 2."
- The external source is selected on the VCR.

AV2 INPUT SELECTION (AV2 S/COMP)

Select "S" to select the S-video input signal or "COMP" to select the composite (normal) video signal for the AV2 input using the ADJUST +/- buttons.

BLUE BACK (BLUE SCREEN)

Select "ON" to set the background blue and mute the sound when there is no broadcast or AV signal present. If the broadcast signal is weak, it is advisable to select "BLUE SCREEN" to " OFF".

Switch "ON" or "OFF" using the ADJUST +/- buttons.

VCR CORRECTION

Select "ON", "OFF", or "AUTO" using the ADJUST +/- buttons.

Select "ON" to increase stability of VCR playback and still/pause pictures. Skew distortion of the picture will be reduced.

Select "AUTO" for the VCRs that can be controlled via the TV's remote control unit. Pressing the PLAY button will automatically operate "VCR CORRECTION ON" function. Pressing the STOP button will automatically operate "VCR CORRECTION OFF" function.

20 IMAGE SIZE SELECTION

With the new 16:9 ratio TV screen, you can enjoy any programme as a wide image.

You can select the image size suitable for the programme automatically or manually.

SELECTING IMAGE SIZE AUTOMATICALLY

Press the AUTO VIEW button to select the image size suitable for a programme automatically.

Press the AUTO VIEW button once to set "AUTO VIEW" to "ON." You can watch the programme with the suitable size for the programme.

PROGRAMMES	AUTOMATICALLY SELECTED IMAGE SIZE
4:3	THE LAST SELECTED MODE FROM EITHER "PANORAMA 1" OR "PANORAMA 2"
MOVIE THEATRE SIZE	"CINEMA"
MOVIE THEATRE SIZE WITH CAPTIONS ON THE BOTTOM	"CAPTION"

To set "AUTO VIEW" to "OFF," press the AUTO VIEW button while "AUTO VIEW ON" display is on the screen. Pressing the PANORAMA, CINEMA, or 4:3 button will also cancel "AUTO VIEW ON" and the image will be changed to the manually selected size.

NOTE: It depends on the programme how long it takes the TV to change to a wide image.

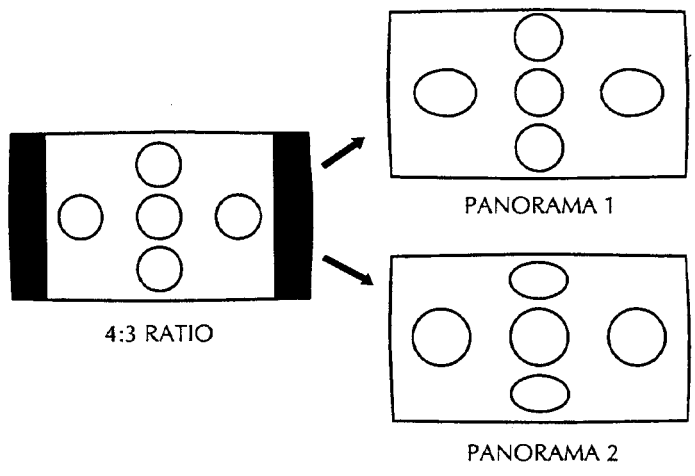
NOTE: Sometimes the image on the screen may be too dark to select a suitable image size automatically. In this case, select a suitable image size manually.

NOTE: If you select the PANORAMA 1, PANORAMA2, CINEMA, CAPTION size, time display and teletext information displayed on the bottom of the page may be hidden when using Teletext functions. In this case, refer to "MOVING THE IMAGE UPWARDS AND DOWNWARDS" on the following page of this section.

SELECTING IMAGE SIZE MANUALLY

PANORAMA

Press the PANORAMA button to select "PANORAMA 1" or "PANORAMA 2" to watch the 4:3 ratio programme as a wide image. The wide image enables you to enjoy sport programmes such as foot ball or baseball as if you were in the stadium.



Select either "PANORAMA 1" or "PANORAMA 2" for your preference.

PANORAMA 1

- The image on the right and left side is slightly widened.

PANORAMA 2

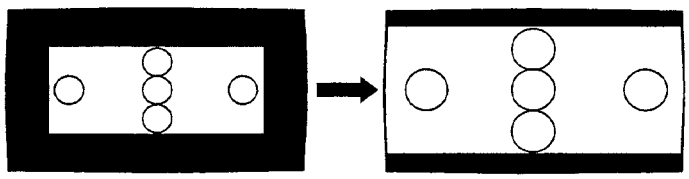
- The image on the top and bottom is slightly compressed.
- The whole image is forced into the screen. You can watch the whole image on the screen.

CINEMA

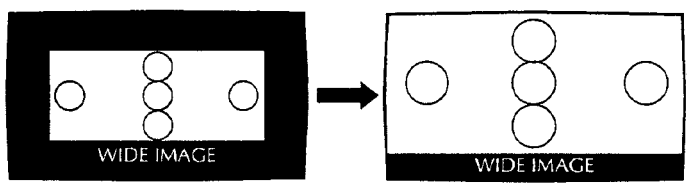
Press the CINEMA button to select "CINEMA" or "CAPTION" to watch the cinema programme, especially a cinema programme of the movie theatre size, as a wide image.

The movie theatre size cinema programmes such as Vista size or CinemaScope size are broadcasted or recorded in the video tape with the same ratio size as in the movie theatre.

CINEMA . . . . . is suitable for the movie theatre size cinema programmes.



MOVIE THEATER SIZE CINEMA



MOVIE THEATER SIZE WITH CAPTIONS CAPTION

CAPTION . . . . is suitable for the movie theatre size cinema programmes with the captions on the bottom of the screen. You can watch the captions on the screen because the image on the bottom is compressed in "CAPTION" mode.

NOTE: Changing the inputs will cancel the "CAPTION" mode.

4:3

Press the 4:3 button to select "16:9", "14:9" or "4:3."

16:9 . . . . . is designed for the PAL-PLUS broadcast received in Germany and the nations close to Germany. This is suitable for the 16:9 ratio programme. The normal size image is widened horizontally so that it may have normal proportions. You can watch the whole image on the screen.

14:9 . . . . . is designed for the PAL-PLUS broadcast received in England.

4:3 . . . . . changes the image size to the 4:3 ratio, which is normal image size of the conventional TV.

NOTE: When you watch the 16:9 ratio programme by connecting the VCR equipped with auto Aspect Ratio Switching, the screen size will switch to "16:9" size automatically. You can not select other screen size.

MOVING THE IMAGE UPWARDS AND DOWNWARDS

If you select the PANORAMA 1, PANORAMA2, CINEMA, CAPTION size, time display and teletext information displayed on the bottom of the page may be hidden when using Teletext functions. In this case, adjust the vertical position of the image pressing the CHANNEL +/- buttons while the selected image size display is on the screen.

The number on the screen "V-POS 0" will change as you press the CHANNEL +/- buttons (in the range of -10~+10). Press the "+" button to move the image upwards, and the "-" button to move the image downwards.

21 CHILD LOCK

This feature allows you to lock the TV so it cannot be switched on easily.

Press the "8" and "MUTE" buttons on the remote control at the same time. The TV goes into stand-by and **can only be switched on again by pressing the "8" and "MUTE" buttons together again.**

Child lock is indicated by the stand-by lamp flashing when child lock is selected and also if the STAND-BY button is pressed.

22 STEREO BROADCAST RECEPTION

WHEN RECEIVING GERMAN STEREO (in Germany, etc.)

This TV is capable of dual-carrier stereo sound reception. When a programme is received for the first time, an on-screen display appears showing the sound mode being received.

1. STEREO RECEPTION

During a stereo broadcast you can select "forced mono" by pressing the SOUND MODE button "I/II". This can be used to reduce the level of background noise or to stop the TV from switching in and out of stereo if the aerial signal is weak or if there is interference.

The on-screen display of the selected sound mode is "STEREO" or "MONO".

2. DUAL SOUND (BILINGUAL) RECEPTION

During a dual-sound (bilingual) broadcast pressing the SOUND MODE "I/II" button repeatedly selects the following options:

a) channel I on both speakers I ⋈ I

b) channel II on both speakers II ⋈ II

c) channel I on left speaker, II on right speaker I ⋈ II

Note that if the broadcast sound mode changes (from stereo to bilingual, for example) the screen will display the symbol of the new sound mode for a few seconds.

WHEN RECEIVING NICAM STEREO (in UK, France, etc.)

The NICAM system broadcasts TV sound digitally in parallel with the normal sound channel. You can switch the TV to use NICAM sound (if available) or to use normal sound.

To check for a Nicam broadcast, press the DISPLAY button. The sound mode will also be displayed when you change channel or the Nicam broadcast mode changes.

The on-screen display will show how Nicam is being broadcast for the current channel.

NICAM STEREO = Nicam stereo

NICAM I⋈I = Nicam dual-sound (bilingual)

NICAM I = Nicam mono

MONO = Normal mono TV sound (i.e. Nicam off)

NO DISPLAY = Nicam not being received

If Nicam is being received, you can switch between the available Nicam mode and Nicam off by pressing the SOUND MODE "I/II" button.

Note that broadcasters will usually transmit mono programmes in stereo mode - i.e. the sound is mono but the on-screen display shows "**NICAM STEREO**" as if it were stereo.

DUAL SOUND (BILINGUAL) RECEPTION

During a dual-sound (bilingual) broadcast pressing the SOUND MODE "I/II" button repeatedly selects the following options:

a) channel I on both speakers	**NICAM I⋈I**
b) channel II on both speakers	**NICAM II⋈II**
c) channel I on left speaker, II on right speaker	**NICAM I⋈II**
d) Nicam off	**MONO**

23 OFF-TIMER OPERATION

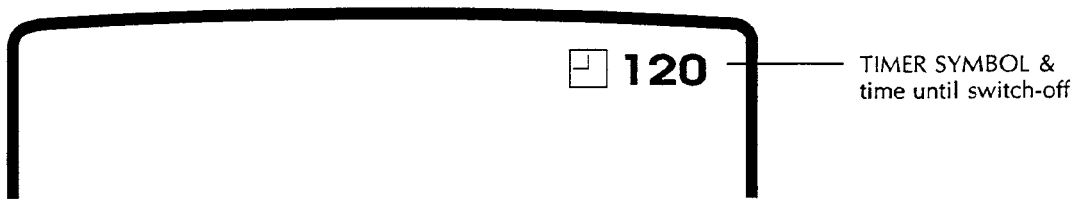
This set has two off-timers.

- The sleep timer which automatically switches the TV to "STAND-BY" 30 minutes after the transmitter shuts down.
- The timer can be programmed to switch off the TV up to 120 minutes in advance.

PROGRAMMING THE OFF-TIMER

1. Press the OFF-TIMER button once, the on-screen display shows: ⏲ - - -

2. Press the OFF-TIMER button again and the number "120" appears next to the timer symbol. This is the time in minutes remaining until the TV switches itself to stand-by.



3. Press again to reduce the time in 10 minutes steps until you see the time you want.

4. Wait until the display disappears. The timer is now set.

The display will appear in red during 5 minutes before switch off.

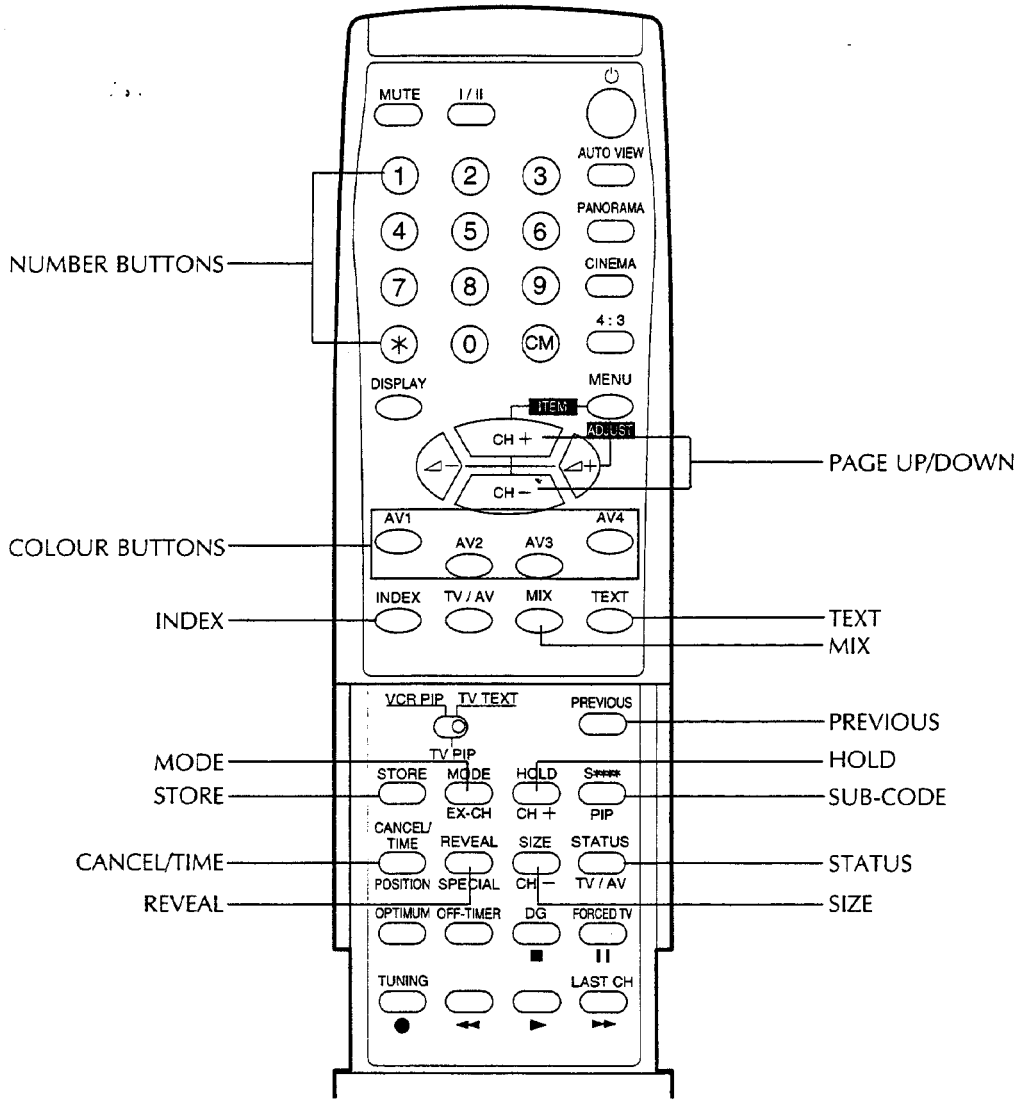
TO CANCEL THE TIMER

Press the OFF-TIMER button repeatedly until the remaining time is zero, shown by ⏲ - - - or press the STAND-BY button.

TO CHECK THE REMAINING TIME

When the display is not on the screen, press the OFF-TIMER button once.

24 TELETEXT OPERATION

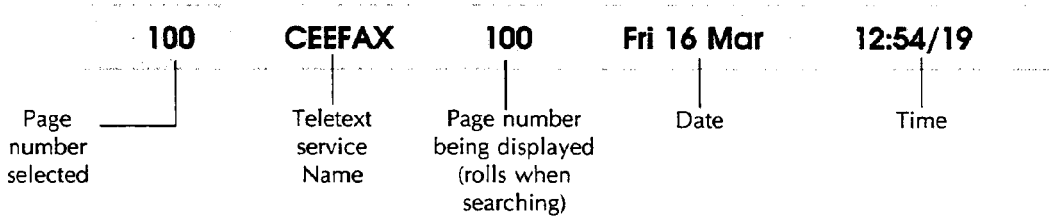


NOTES: Before using Teletext function set the VCR/TV/PIP/TELETEXT SWITCH to "TV TEXT."

Teletext is not available in the following cases: 1. you use PIP or POP function, 2. you select (RGB)AV1 or (RGB) AV4 input source.

BASIC OPERATION

1. Turn on the TV.
2. Select the channel of the teletext service you wish to use.
3. Press the TEXT button, to turn teletext on, an index page is displayed. The top line looks like this (for example):



4. Choose a subject and input the page number of the subject by pressing the number buttons on the remote control unit.

   - If the subject you have chosen is on page 140 - press buttons 1, 4 and 0. As you press the buttons the numbers will appear in the top left corner of the Teletext display.

5. At the bottom of the page you might see four coloured subjects names - to select one of these, simply press the matching colour button.

6. To see an index page, press the INDEX button.

7. To superimpose the teletext page on the TV picture (MIX mode), press the MIX button.

NOTE: The "SVM" picture improvement feature of this TV may cause some interference with Teletext in MIX mode or when subtitles are being used. You can switch off SVM using the PICTURE MENU 2, see: section 16.

8. To stop using teletext and return to watching TV - press the TEXT (from TEXT mode) or MIX button (from MIX mode) again.

TOPTEXT

"TOPTEXT" is available on various German channels and has extra features compared to normal teletext. Pages are arranged logically into blocks and groups. BLOCKS are main subject headings such as sport, news etc. and GROUPS are areas within these subjects such as tennis and football. Coloured "prompts" allow you quick access to pages using the colour buttons.

If you are receiving TOPTEXT, after a few moments (a maximum of 60 seconds) you will see four coloured prompts at the bottom of the screen like this:

<<	>>	Title of next Group	Title of next Block
red	green	yellow	blue

The << and >> symbols represent the next available page number lower and higher respectively. To select one of these, press the matching colour button.

PAGE SELECTION

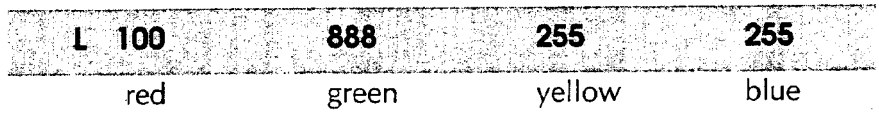
The number buttons 0-9 can be used to select a page by pressing the 3 numbers in sequence. With TOPTEXT, if the page is not available, the following message is displayed: "SEITE XXX WIRD NICHT GESENDET" (Page XXX is not being broadcast).

HIT LIST

The TOP system allows the broadcaster to choose certain pages to be put on a separate index called the Hit List. This is selected using the INDEX button. There is a cursor which highlights a page title in the index. Move this cursor using the coloured buttons corresponding to the UP and DOWN prompts on the screen and select the highlighted page using the colour button matching the prompt "ANWAHL" (meaning Select).

PREFERRED PAGE OPERATION (LIST MODE)

1. Press the MODE button to select this mode. The letter "L" and four coloured page numbers will appear at the bottom of the screen, e.g.:



2. To see one of these pages - press the matching colour button.
3. To change the numbers to your own preferred pages:
   a) Press a colour button.
   b) Enter a page number (press 3 number buttons, for example).
   c) Repeat this with the other colour buttons and with other page numbers if you like.
   d) Press the STORE button and hold it until the coloured numbers turn white. This stores the new page numbers so that they are automatically displayed each time list mode is selected.

   If the new page numbers are not stored then the old page numbers will return next time you select list mode.

   You can store a different set of four page numbers for each of the first 41 channel positions (0-40). Channels 41 to 59 share the same set of four pages as channel 41.
4. To turn off list mode press the MODE button again.

OTHER FUNCTIONS

- CH +

These buttons can be used to select the next page number up or down - but note that the next page number may not exist.

PREVIOUS

Pressing the PREVIOUS button will step back through the last four selected pages.

SIZE

Pressing the SIZE button repeatedly enlarges the top half of the page, then the bottom half and then returns the page to normal.

TEXT CANCEL CANCEL/TIME

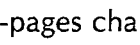
Pressing the CANCEL/TIME button restores the television picture but leaves the teletext system switched on. You can request new pages without interrupting a television programme.

The page number will be displayed if a page is received for the first time.

Press the TEXT button twice to redisplay the teletext page.

HOLD

Some teletext pages contain several "sub-pages" which are displayed one after another.

If you want to stop the sub-pages changing - press the HOLD button. The symbol "  " will appear at the top left of the page. To cancel this function press the HOLD button again or select another page.

REVEAL

Pressing the REVEAL button will display hidden text, for example, on a quiz page with concealed answers. Press the button again to hide the text.

SUB CODE (S****)

If a teletext page has several sub-pages and you want to see a particular sub-page:

1. Select the page number.
2. Press the S**** button.
3. Enter the sub-page number, e.g. for sub-page 7 of 23 press 0, 0, 0, 7.

The currently displayed page will remain on screen until the requested sub-page is received. (You can press the CANCEL button to watch TV while you are waiting.)

TIME DISPLAY CANCEL/TIME

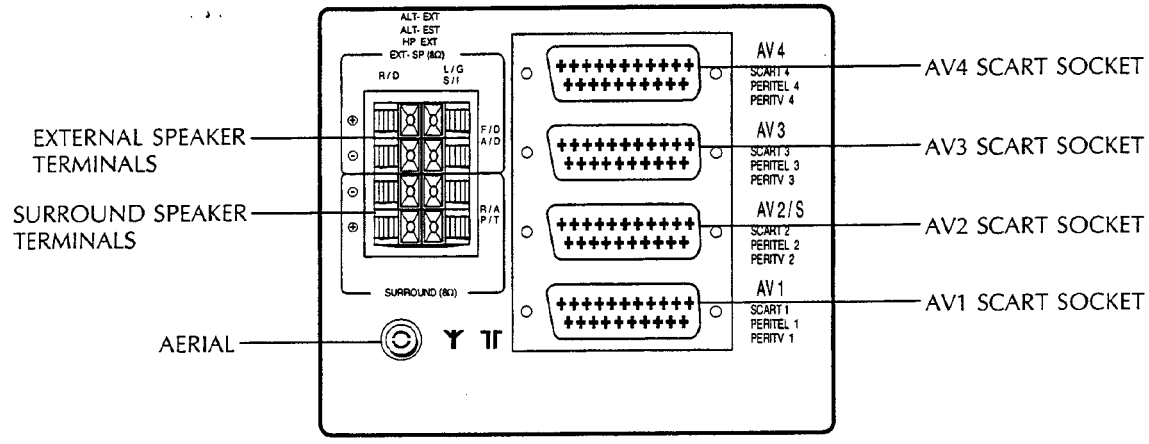
Press this button to see a digital clock on the screen when Teletext is switched off. Press again to remove the clock. Teletext must be available for this to work.

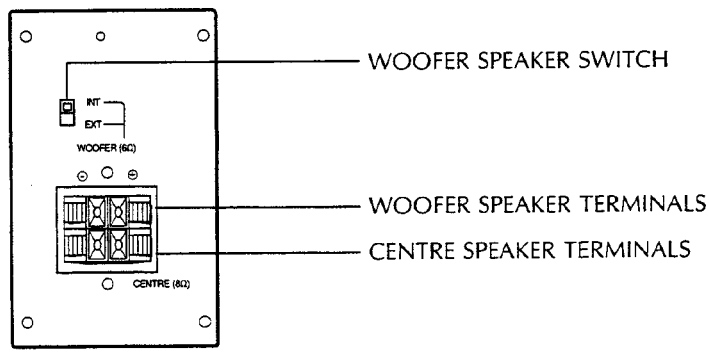
STATUS

Press the STATUS button to display the top line of the Teletext page when it is not normally visible - for example, when using subtitles.

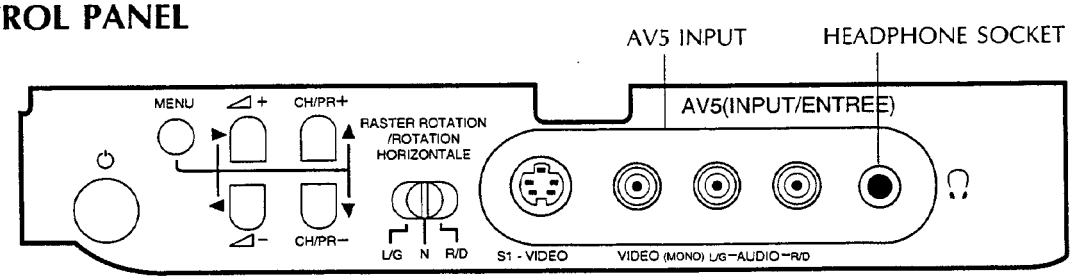
25 CONNECTORS

REAR CONNECTOR PANEL





CONTROL PANEL



HEADPHONE SOCKET

You can connect headphones to this set for private listening if desired. Push to open the control door on the front of the set for access to the 3.5 mm stereo mini-jack socket marked . When you select the reduced (PIP or POP) image, the sound is coming from the reduced image in normal TV sound. You can not adjust treble, bass, balance, and surround functions.

AERIAL

The aerial socket on the back is a standard 75 ohm coaxial TV aerial socket. Connect your aerial in the usual way.

You can also use the aerial socket to connect a VCR, home computer or etc. but it is recommended that you use one of the following sockets as these should give a better quality result.

AV1 SCART SOCKET

This is the main input and output socket. It has audio, composite video and RGB inputs (collectively called "AV1-in") and audio and composite video outputs (collectively called "AV1-out"). The output is always the same as the signal received through the aerial socket (the "TV signal") even when you are watching an AV input. When you use the scramble decoder, it is better to connect it to this socket.

AV2 SCART SOCKET

This connector provides a second audio and composite video input (AV2-in) and a second audio and composite video output (AV2-out). This output can be switched between either the AV1, AV2, (S)AV2, AV3, AV4, AV5, or (S)AV5 input, or the TV signal using the MENU, ITEM +/- and ADJUST +/- buttons. This input can be switched between composite (normal) video or S-video input. See section 19 "SET UP FUNCTIONS" for details.

AV3 SCART SOCKET

This connector provides a third audio and composite video input (AV3-in) and a third audio and composite video output (AV3-out). This output can be switched between either the AV1, AV2, (S)AV2, AV3, AV4, AV5, or (S)AV5 input, or the TV signal using the MENU, ITEM +/- and ADJUST +/- buttons. See section 19 "SET UP FUNCTIONS" for details.

AV4 SCART SOCKET

This is a fourth input and output socket. It has audio, composite video and RGB inputs (collectively called "AV4-in") and audio and composite video outputs (collectively called "AV4-out"). The output is always the same as the signal received through the aerial socket (the "TV signal") even when you are watching an AV input.

AV5 INPUT (standard or S-VIDEO inputs)

This input is behind the right hand door on the front of the TV.

There are four sockets:

1) An S-video socket for connecting an S-VHS VCR or similar.

2) Two audio inputs - stereo left and right.

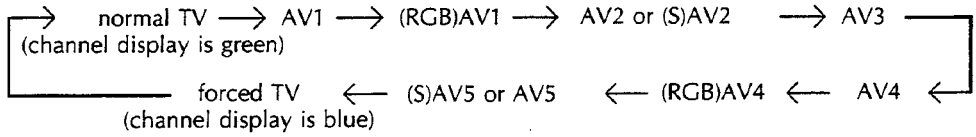
3) A composite video socket (RCA phono type) for a conventional VCR.

NOTE: If you try to connect both the S-video socket and the standard socket at the same time, the TV will use the signal from S-video input in preference to the standard input.

NOTE: If the audio output of your external video equipment is mono, make sure that you connect the audio plug to the "(MONO) L" socket so that the signal is automatically sent to both the left and right TV speakers.

AV INPUT SELECTION

Press the TV/AV SELECTOR button on the remote control to select an AV input. Pressing repeatedly changes the selection like this:



* You can not select RGB input source when you use PIP or POP function.

You can also select an AV input directly by pressing one of colour buttons (while not in teletext mode). Press the red, green, yellow or blue button to select the "AV1", "AV2", "AV3" or "AV4."
Press the red button repeatedly to select "AV1" or "(RGB)AV1."
Press the blue button repeatedly to select "AV4" or "(RGB)AV4."
Press the green button repeatedly to select "AV2" or "(S)AV2."
If you have connected equipment to the AV1, AV2, AV3, or AV4 SCART socket with a SCART to SCART connecting lead, you can usually expect the equipment to switch the TV to AV mode automatically as soon as the equipment is set to play. In this case the on-screen display of "AV1", "AV2", "AV3", or "AV4" will be replaced by "SCART AV1", "SCART AV2", "SCART AV3", or "SCART AV4".

If you have connected S-video type equipment to the AV5 input; the on-screen display will show "(S)AV5" in place of simply "AV5".

Pressing any channel selector button (1- 9, * - -, CM - -) will directly select TV mode from AV mode.

<Forced TV mode>
Select forced TV mode if you want to watch a TV channel while the equipment such as a VCR or a satellite receiver connected to the AV1, AV2, AV3, or AV4 SCART socket is set to play. Press the TV/AV SELECTOR button several times or press the FORCED TV button once to select forced TV mode from AV mode. The on-screen display of the channel number is shown in blue.

In order to set the TV back to normal TV mode, press the TV/AV SELECTOR button once. The channel number is shown in green.

SURROUND SPEAKER TERMINALS

Use to connect the attached surround (rear) speakers. See section 18 "SURROUND SYSTEM".

EXTERNAL SPEAKER TERMINALS

Use to connect the front speakers. See section 18 "SURROUND SYSTEM".

CENTRE SPEAKER TERMINALS

Use to connect the centre speakers to use DOLBY SURROUND (PRO LOGIC NORMAL) mode. See section 18 "SURROUND SYSTEM".

WOOFER SPEAKER TERMINALS

Use to connect the external woofer speakers. When you use this terminal, set the woofer speaker switch on the TV rear to "EXT". See section 18 "SURROUND SYSTEM".

WOOFER SPEAKER SWITCH

Use to select which woofer speaker (TV's built-in or external) is available. Set to "INT" for operation of the TV's internal woofer speaker. Set to "EXT" to turn off the internal woofer speaker when you are connected to an external woofer system (optional TV stand with woofer box).

CONNECTING THE SPEAKERS

To use the speakers:

1. Remove the covering on the end of the speaker leads and divide the leads into two parts.
2. Twist the core wire of the leads.

3. Push up the tab on the speaker terminals on the back of the TV.
4. Insert the speaker leads of the attached speakers into the terminals. Be sure that the + and - leads from the speakers are connected to the corresponding + (red) and - (black) speaker terminals.

NOTES: Only connect speakers to these terminals and never connect other equipment to the same speakers at the same time.

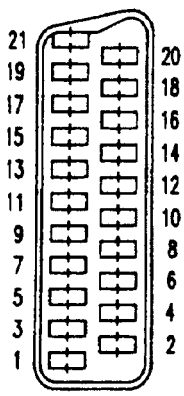
If you do not use the attached speakers, only use speakers with a nominal impedance of 8 ohms and an input of 25W or more (for external left and right speakers) and 15W or more (for surround rear speakers).

Switch off the TV by the mains switch before connecting or disconnecting speakers.

If you do not use the attached leads, cut the covering of the leads at 20mm from the end.

The optional TV stand builds in the woofer speaker and the centre speaker. Woofer sound from the TV stand's woofer speaker is better than that from the TV's internal woofer speaker. If you use the centre speaker of the TV stand as the external centre speaker, you can use DOLBY SURROUND PRO LOGIC NORMAL mode.

SCART SOCKET CONNECTIONS



PIN	AV1/AV4	AV2	AV3
1	AUDIO OUT R		
2	AUDIO IN R		
3	AUDIO OUT L		
4	AUDIO EARTH		
5	BLUE EARTH	EARTH	
6	AUDIO IN L		
7	BLUE IN	NOT CONNECTED	
8	FUNCTION SWITCH		
9	GREEN EARTH	EARTH	
10	NOT CONNECTED		
11	GREEN IN	NOT CONNECTED	
12	NOT CONNECTED		
13	RED EARTH	EARTH	
14	BLANKING EARTH	EARTH	
15	RED IN	CHROMA IN	NOT CONNECTED
16	BLANKING	NOT CONNECTED	
17	VIDEO OUT EARTH		
18	VIDEO IN EARTH		
19	VIDEO OUT		
20	VIDEO IN	VIDEO IN/LUMINANCE IN	VIDEO IN
21	SOCKET EARTH		

- VIDEO OUT and AUDIO OUT R/L of the AV1/AV4 are always the signals from the tuner.
- VIDEO OUT and AUDIO OUT R/L of AV2 or AV3 are the selected output in "AV2·AV3 OUTPUT" of "SET UP MENU 2." When you select AV2 (or AV3) source in the following case, the test pattern will appear or strange sound will be heard.
  - The VCR is connected to AV2 (or AV3) SCART socket.
  - The AV2 and AV3 output is switched to "AV2" (or AV3) in "AV2·AV3 OUTPUT" of "SET UP MENU 2."
  - The external source is selected on the VCR.
- You can select AV2 input either "S" for S-video signal or "COMP" for composite signal in "AV2 **S/COMP**" of "SET UP MENU 2."

26 TROUBLESHOOTING GUIDE

If something goes wrong or seems to not work, check the following points before calling for a service technician.

NO PICTURE OR SOUND

Try another channel.
Check the TV is not in stand-by, press the stand-by button ⏻ .
Check the TV is plugged in and the mains switch is on.
Check the fuse and the mains socket.

NO PICTURE BUT SOUND IS OK

Try another channel.
Check the brightness and contrast adjustments.

NO SOUND BUT PICTURE IS OK

Try another channel.
Check the volume setting - press the volume "+" button.

NO COLOUR

Is it a colour programme? - try another channel.
Check the colour adjustment.

GHOSTING (DOUBLE IMAGE)

Adjust the direction, height or position of your aerial. Reflections from buildings and hills cause this problem, a highly directional aerial can help.

SNOW

Small dots on the screen caused by a weak aerial signal - check the aerial connections, position and direction.
Try another channel - the transmitter may be on reduced power.

RANDOM NOISE INTERFERENCE

Spots or streaks on the picture and/or noise on the sound. Usually caused by cars, electrical equipment (such as electric drills or toys) and neon lamps. Try to remove the source of interference or reposition the aerial away from the source.

RADIO FREQUENCY INTERFERENCE

Causes moving ripples or diagonal lines on the screen. This is caused by interference from radio frequency transmitters such as walkie-talkies, radio-control model transmitters, etc.

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